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The Oliver-Sharpey Lectures

ON

SOME EFFECTS WHICH FOLLOW UPON CHANGES IN THE REACTION OF THE BLOOD.

Delivered before the Royal College of Physicians of London on March 31st and April 2nd, 1914,

BY F. GOWLAND HOPKINS, M.A. CANTAB., M.B., D.Sc. LOND., F.R.C.P. LOND., F.R.S.,

READER IN CHEMICAL PHYSIOLOGY IN THE UNIVERSITY OF CAMBRIDGE.

LECTURE I.

Delivered on March 31st.

MR. PRESIDENT AND GENTLEMEN,—I wish first to express my thanks to the College for entrusting these lectures to me. No worker in any branch of physiology could fail to find satisfaction in having his name associated, however temporarily, with those names which give a title to the lectures. Several of my predecessors have been able to claim personal knowledge of Dr. William Sharpey. The privilege of making this claim is not mine, and it is likely to belong to very few of my successors. Personal memories of one who died 34 years ago when nearly an octogenarian cannot now be in the possession of very many. But to-day we are all yet in touch with the great traditions of the physiological school of University College, London, as it existed during the middle third of the last century. A later generation, however, may perhaps need more reminder of the name of William Sharpey, for his reputation is due to great personal qualities rather than to a prolific pen. We may rejoice, therefore, that the piety of his friends has linked his name with commemorative lectures and a scholarship.

Only those who have read the gossip of the time will realise what courage Sharpey needed when he began his work in Gower-street. He came from Edinburgh knowing full well that his London appointment had been bitterly opposed in influential circles, and that he had to overcome strong prejudices. His crimes were only those of being comparatively young and of lacking the personal acquaintance of certain great people in London medical circles. THE LANCET, which voiced the opposition, spoke of him as the "unknown man from the North." But, like many another man from the north, he came south provided, not only with courage, but with such qualifications as make success certain. Those who opposed his appointment while he was unknown ranked themselves amongst his admirers when he had displayed his qualities. Knowing the circumstances it is very interesting to read his first introductory lecture to the students of University College delivered on Monday, Oct. 3rd, 1836. It was full, first of all, of what may be termed scientific commonsense; but it sounded the keynote of a method of teaching which, if cautious, could never be other than inspiring. The lecturer at this time professed, you will remember, anatomy and physiology conjointly. Dealing with the former subject he voiced a remarkably modern view concerning the bearings of comparative anatomy, the significance of vestigial relics, and the like. His mind was clearly even then prepared for the acceptance of evolutionary doctrine. An eloquent passage which closed his address to the London meeting of the British Medical Association 26 years later—in 1862—showed that, in spite of characteristic caution he greatly welcomed the opportunity for intellectual expansion which Darwin had by then provided. When, in his first London lecture, he turned to the subject of physiology he claimed that its foundations lay in anatomy and especially in histology. But he was no apostle of mere descriptive methods. He was all for experiment, and urged of physiology that "the great aim of the science is to arrive at the general laws to which individual phenomena are subordinate."

ANALYSIS OF THE BLOOD.

A general end to which many individual phenomena in the body seem subordinate is the maintenance of a normal mean in the composition of the blood. While we have long realised that the essential dynamic changes of metabolism occur within the tissue cell we have come, during the past ten years, to appreciate more fully than ever how important to the cell are the minutest details in the composition of the fluids which bathe it. We have arrived, too, at a better understanding of the extraordinary nice adjustment of the properties of the blood to its functions as a medium of transport.

Our ability to study equilibrium in the blood has increased very greatly during the past few years by the introduction of micro-analytical methods of research. We may now add to our quantitative studies of the morphological elements, and of the subtle bodies concerned in immunity phenomena, accurate determinations of the blood gases. We may also estimate a considerable number of ordinary metabolites as they circulate, even when we are limited to such amounts of blood as may be obtained by pricking the finger. These methods have already yielded some most pregnant facts, and their availability, together with the certainty that similar methods will be found for still other blood constituents, is opening up new ground for research.

Reference to methods of analysis calling for minute quantities of blood seems especially justifiable in these lectures because they so extend our power of making "observations and experiments on man himself." But if the claim be made that determinations can be carried out on blood obtained from a finger prick we most assuredly cannot ignore the important work of the distinguished founder of these lectures—work which formed the subject-matter of the first lecture of the series. It will, of course, be remembered that Dr. Oliver was able to follow the actual variations in lymph flow which are the result of digestion, exercise, &c., by determining the corresponding variations in the cellular elements, and in the specific gravity, of the blood obtained from the finger before and after compression. These researches show that no accuracy can be hoped for in determinations of the non-diffusible elements in the blood as obtained from the finger unless the variations of lymph flow are properly allowed for. But it does not quite follow that the criticism applies when diffusible constituents are in question. The point seemed easy to test by estimating sugar and chlorides by the very accurate processes described by Ivar Bang, comparing these constituents in the blood obtained respectively before and after compression of the finger by Dr. Oliver's method. My colleague, Mr. S. W. Cole, who has attained to great skill in the use of the above micro-analytical methods, kindly undertook to investigate the point. As the result of a large number of estimations upon three individuals he was unable to find any measurable

difference in the chlorides. Equilibrium between blood and lymph is, in respect of the chlorides, apparently too complete for any differences to appear. In connexion with sugar the results were somewhat different. As a rule the figures obtained before and after compression of the finger agreed closely, but in certain cases there was a marked difference. The variations could not be very closely related to the taking of food or exercise, but the highest differences observed occurred when the samples were taken above two hours after a full meal. The results seem to indicate that it is well in all cases when it is proposed to make estimations upon blood from the finger to preserve standard conditions in connexion with the withdrawal.

THE CHEMICAL REACTION OF THE BLOOD.

But I am specially concerned with one particular quality of the blood—namely, its chemical reaction. Variations in this can now be studied with great accuracy by the use of the very small amounts of blood we have been considering. It is an old subject of study which has entered upon a new phase; new because accuracy of method is now available in connexion with it; but also because the progress of physical chemistry has now given definiteness to what was previously a somewhat vague conception. We were long content to speak of the blood as an alkaline fluid because it turns red litmus blue or affects certain other coloured indicators in a particular sense. We were content to determine the degree of alkalinity by observing how much standard acid must be added before this or that indicator ceased to be affected. That the information so obtained is indefinite becomes at once clear from the fact that the end-point is different with different indicators. We needed a clearer definition of the terms "neutrality," "alkalinity," and "acidity," and a measure of "reaction" which is independent of such variable factors. To-day we can both define and measure "chemical reaction" satisfactorily in terms of the hydrogen ion concentration.

The qualities which all acid solutions have in common—qualities from which our fundamental conception of "acidity" emerges—are due to the existence of free hydrogen (H) ions in the solution; similarly, the qualities which are common to all bases, and from which we get our general idea of "alkalinity," are due to the existence of hydroxyl (OH) ions in solution. A determination of the concentration of one or other of these ions yields an absolute measure of the potency of a solution to produce those particular chemical effects which are correlated with acidity or alkalinity. This is by no means necessarily true of a determination by titration. Two solutions may have been proved in other ways to be, say, of equal alkalinity, yet one may call for the addition of much more acid than the other before neutrality is established.

Determination of Hydrogen Ion Concentration.

The concentration of H or OH ions in blood can now be measured with considerable accuracy and with conveniently small quantities of material. The direct determination is more easy in the case of the H ion, but fortunately this determination by itself gives simultaneously an indirect measure of the OH ion concentration. In neutral solutions the two kinds of ion are present in exactly equal concentration, and the following equation holds for all aqueous solutions:

$$C_H \times C_{OH} = \text{Constant} = 10^{-14\cdot14};$$

that is to say, the product of the concentrations of H and OH ions is always constant and is equal to the dissociation constant of pure water. If, therefore, we determine either concentration we can, since the constant is known, always calculate the other. It has, indeed, proved convenient to express the reaction of any solution, be it acid or alkaline, in terms of the hydrogen ion concentration, a course which the relations just referred to clearly make possible. The value is stated with reference to the "normal" hydrogen solution (1 gramme per litre). We have usually to do with concentrations which are but a small fraction of this, and at Sörensen's suggestion it is now customary to state them in the form of the common logarithm, which expresses their normality value, the minus sign of the logarithm being omitted. Expressed in this way the hydrogen ion concentration (P_H) of decinormal hydrochloric acid becomes 1·04, that of a neutral solution 7·07, and that of a decinormal sodium hydrate solution 13·06. If these three figures be borne in mind they form, as it were, a scale to which we can refer other values. One soon becomes accustomed to this newer method of expressing quantitatively the chemical reaction of fluids. The chief thing to bear in mind is that an increase in these negative exponential values means decrease in acidity, or, when the value of 7·07 is passed, increase in alkalinity.

The fundamental method of determining the hydrogen ion concentration in a fluid is that of measuring the potential set up when a hydrogen electrode is in contact with the fluid which is being studied. Another efficient and interesting method will be mentioned later. It is impossible for me to discuss the details of the first-mentioned method; I would only point out that in the case of blood it is only quite recently that the technique has been developed to the point of accuracy. It is essential before we can know the real condition of the circulating blood that estimation should be made upon samples exposed to a normal tension of carbonic acid, since this, of course, is an important factor in determining the existing reaction. Owing to the work of Hasselbalch such estimations can now be carried out with ease, but I think the last word has not been said in connexion with possible improvements.

Titration and the "Buffer" Action of Salts.

The many determinations that have now been made point to the fact that the hydrogen ion exponent (P_H) of blood is of the order of 7·36—that is to say, the reaction of the blood is very slight indeed upon the alkaline side of neutrality. Yet when blood is titrated it requires so much acid to neutralise it that we should be led to speak of a decided alkalinity. Titrated, for instance, with standard sulphuric acid and with the use of lackmoid as an indicator, the whole blood shows a neutralising power equal to that of a solution containing 370–400 milligrammes[1] of sodium hydrate per 100 c.c., which is nearly equal to that of a decinormal solution of soda. The blood certainly does not behave as though it possessed such an alkalinity. An approximate understanding of this apparent paradox is no new thing. It has, of course, been long understood that it is the presence in particular of carbonates and phosphates which explains it; but it remained for the development of physical chemistry to give a clearer explanation and to demonstrate exactly why the blood while a nearly neutral fluid is one to

[1] Landau: Archiv für Experimentelle Pathologie und Pharmakologie, lii., 271 (1905). Rzentkowski: Ibid., lv., 47 (1906).

which considerable quantities of acid or base may be added without appreciable change in its reaction. The work of Höber, and especially that of Lawrence J. Henderson,[2] has been largely instrumental in making the matter clear to biologists. The fact that the effective reaction of a fluid depends upon the concentration of H and OH ions lies at the bottom of the explanation, as well as the circumstance that weak bases and weak acids such as carbonic acid and phosphoric acid exhibit a very low degree of ionisation. If we add acid in successive quantities to water or to a solution of stable salt such as sodium chloride, the acidity rises, of course, nearly in proportion to the acid added; but a solution of such salts as phosphates, acidates, borates, &c., or one containing such substances as aminoacids, though neutral to start with, will change in acidity only slowly as extraneous acid is added. Such substances are known as "buffers," their presence stableises a solution in respect of changes in hydrogen ion concentration. The following figures from a paper by Hasselbalch and Lundsgaard show the effect of phosphates in preventing a rise of acidity with increasing tensions of carbonic acid.

Solution.	C_H at— 0 mm. CO_2.	50 mm. CO_2.	Percentage rise in C_H.
N/10 KCl.	$2{\cdot}04 \times 10^{-7}$	$18{\cdot}20 \times 10^{-7}$	791
Na_2HPO_4 + NaH_2PO_4	$1{\cdot}78 \times 10^{-7}$	$2{\cdot}45 \times 10^{-7}$	38

It is seen that a rise of 50 mm. in the tension of carbonic acid increases the hydrogen ion concentration in a potassium chloride solution by 791 per cent., whereas in a solution of equal parts of monopotassium and dipotassium phosphates the rise is only 38 per cent. These buffer salts stableise against change on either side of the neutral point; thus Henderson points out that in the case of a simple solution of $NaHCO_3$, NaH_2PO_4, and Na_2HPO_4 subjected to a constant tension of carbonic acid, there is such stability in respect of hydrogen ions that, in order to change its reaction from one of 0·0000002 normal acid to one of 0·0000002 normal alkali, it is necessary to add a decinormal solution of NaHO in amount nearly equal to the volume of the solution. The stability of blood in this respect is still greater than that of a solution of its salts; its proteins also act as buffers, since they form compounds of low ionising power with both acids and bases.

Now, titration with indicators which change colour when a known hydrogen ion concentration is reached gives an empirical measure of the range of this buffer action, and I wish to emphasise the point that we thus measure an important independent variable in the blood. Titration values are by no means without significance. We may use in illustration of this an analogy derived from electrical phenomena. Actual acidity may be taken as corresponding with electrical potential; the neutralising power of a solution due to the buffer action of its salts will then correspond with the capacity of, say, a condenser. To raise two uncharged condensers to the same potential requires quantities of electricity which are proportional to their capacity; to raise two neutral solutions to the same acidity will require quantities of acid which are proportional to their buffer action. To produce any given change in potential more electricity is required in the case of the condenser of greater capacity, and to produce a given change in hydrogen ion concentration more acid is required in the case of the solution with the more efficient buffers. The existing potential is, of course, no measure of the capacity. Blood corpuscles, for instance, show a distinctly higher hydrogen ion concentration, an appreciably greater effective acidity than the plasma, yet on titration they are found to neutralise much more acid than the plasma can. They would, but for the above considerations, be called more alkaline. Their acid potential is higher than that of the plasma, but so also is their acid capacity. It is clear that we want information as to both these variables in the case of any sample of the whole blood; one sample, while displaying the same actual acidity as that of another, may be nearer the limits of its power to take up more acid.

Respiratory Mechanisms and Blood Reaction.

We need not look far for proof of the physiological importance of the factors which enable the blood to maintain nice adjustment in its chemical reaction, in spite of the wide fluctuations in acid production which occur in metabolism. The extraordinary sensitiveness of the respiratory centre to any change in the reaction arrests us. In 1905 Haldane and Priestley advanced the simple and fruitful view, based upon enlightened experimental work, that under normal circumstances the tension of carbonic acid in the blood is the sole factor which regulates the activity of the centre, and so determines the rate of ventilation through the lungs. Subsequent investigations by Haldane and his colleagues, and by Winterstein, Hasselbalch, and others have led to the generally accepted conclusion that carbonic acid exercises its action, not as a specific hormone, but in virtue of its acidity, and that other acids have a similar action. It is changes in the hydrogen ion concentration of the blood that determine changes in the activity of the centre. Its sensitiveness to such changes is truly extraordinary. The Oxford studies of lung ventilation, as it is related to alveolar CO_2 tension, coupled with Hasselbalch's studies of the blood, have led Dr. Haldane to claim that the activity of the centre is increased by 50 per cent. as the result of an increase of $0{\cdot}005 \times 10^{-7}$ in the hydrogen ion concentration of the circulation. This would mean an increase of acidity about equal to that produced by adding two millionths of a milligramme of hydrochloric acid to 100 c.c. of water—a quantity outside the range of physical measurement. A swing of like order towards the alkaline side will produce apnœa. Imagine what fine adjustments in the blood must occur during the wide fluctuations of metabolism to prevent the constant occurrence of dyspnœa or apnœa. Haldane has bidden us take note of this marvellous display of teleological adjustment as a warning against mechanistic views concerning the animal. It would seem, indeed, that there can be no conditions involving measurable change in the chemical reaction of the blood; except in association with extreme dyspnœa even infinitesimal variations would seem to be incompatible with life.

The subject suggested by the title of my lectures would then appear to have a very limited range. But it is not impossible, to judge from some work of the Copenhagen School, that Dr. Haldane has somewhat exaggerated the delicacy of our respiratory centres. Krogh and Lindhard[3] find, for instance, that the Oxford physiologists have in certain cases over-estimated carbonic acid in the alveolar area.

[2] Ergebnisse der Physiologie, 1909.

[3] Journal of Physiology, vol. xlvii., p. 431 (1914).

This would lead them also to over-estimate the increase in lung ventilation produced by a given increase of acidity in the blood. It is only fair to say that Dr. Haldane has not yet had the opportunity of replying to this criticism. Granting it has no weight, there is another variable to consider, one which has always been emphasised by the Danish workers. If the sensitiveness of the respiratory centre varies, then the reaction of the blood may also vary without producing proportionate dyspnœa. Haldane and his colleagues seem indisposed to admit that the centre can undergo changes of excitability, but apart from the positive evidence in favour of a variability, it would seem extraordinary if the nerve cells of the centre were wholly immune from inherent change. If, as the result of disease, or for other reasons, a change in the normal hydrogen ion concentration of the blood were gradually established, one might expect that the centre would adjust to it. An alteration in the sensitiveness of the centre might thus be either the cause or effect of an altered blood reaction. I am, however, making at the moment no other claim than this: that the proved sensitiveness of the normal centre should not deter us from examining the reaction of the blood in cases where no marked dyspnœa exists.

Adjustments in Relation to Diet.

In any case this sensitiveness is extraordinarily great, and the exact adjustment of the various factors concerned in the maintenance of a normal mean reaction in the blood is clearly a phenomenon of the greatest physiological importance. Hasselbalch[4] has made a very careful study of the adjustments which happen when the diet is varied. As the result of different dietaries considerable variations occur in the relation between available bases and the acids produced in metabolism. If the hydrogen ion concentration of the blood be measured *in the presence of equal tensions of* CO_2, then it will be found greater upon a flesh dietary than upon an alkaline or vegetable dietary, but if at the same time the alveolar tension of CO_2 (which measures the blood tension) be examined, it is found to be lower on the flesh dietary than upon the vegetable. If now the blood reaction be measured in each case in the presence of that tension of CO_2, which is found to be produced by the dietary concerned, it will be found identical in each case. Any increase or decrease in the acidity which is due to acids other than carbonic acid is compensated by a diminution or increase in the latter. The respiratory centre is here playing its part in regulating the action of the blood, but the kidney also plays its part. The hydrogen ion concentration of the urine is consistently higher upon the flesh diet and lower upon the vegetable diet. The lung controls the H ions due to CO_2; the kidney controls those due to other acids. The two agencies combined help to maintain a mean normal reaction in the blood with that extreme nicety which we have been discussing. The kidney indeed, as Haldane points out, must be as sensitive to change in reaction as is the respiratory centre itself. The existence of buffers in the blood first of all keeps any possibility of change within small limits; the respiratory centre approximately adjusts any changes of a sudden sort; while the kidney is perhaps the main regulator of reaction. It may well be that other physiological mechanisms are as sensitive to the reaction of the blood as are the kidney and the respiratory centre. We know, indeed, from the work of Mathison[5] that another nerve centre, the response of which happens to be easy to observe, is sensitive to the reaction of the blood. The vasomotor centre responds at once by increased activity when the hydrogen ion concentration increases, and if it be less sensitive than the respiratory centre, there is no doubt that its response to increased acidity is of physiological importance. The response of other mechanisms may be less easy to observe in the intact animal.

[4] Biochemische Zeitschrift, 46, 403.

OXYHÆMOGLOBIN AND VARIATIONS IN BLOOD REACTION.

But we have not yet finished with relations between the chemical reaction of the blood and the processes of respiration. They are displayed further on lines quite different from those hitherto considered. As you are all doubtless aware, the stability of oxyhæmoglobin is affected in a most significant manner by minute variations of reaction. In 1904 appeared a very important paper by Bohr, Hasselbalch, and Krogh[6] in which it was shown that on exposure to a given tension of oxygen blood takes up progressively less of that gas as the amount of CO_2 simultaneously present increases. The effect of CO_2 is to diminish the stability of oxyhæmoglobin, or, to put it more precisely in Barcroft's phrase, its presence lessens the "effective concentration of oxygen." In order, for instance, to produce a given degree of saturation of hæmoglobin in the presence of 40 mm. CO_2 pressure the concentration of oxygen must be about twice the value which would be needed in the absence of CO_2.

The Danish workers were fully alive to the significance of their discovery in connexion with tissue respiration, but the extremely important work of Barcroft and his colleagues, supplemented by that of Haldane and Douglas, has given quantitative precision to our knowledge of the phenomenon, and has made clear its great practical importance as well as that of other facts closely related to it. In the first place it has become clear that the carbonic acid acts not specifically but *qud* acid. The effect once more is due to an increase in H ion concentration. The curve which relates variations in the percentage saturation of hæmoglobin with the changes in the oxygen tension to which it is exposed is displaced by changes in the effective acidity of the blood. It is not modified in form, but is displaced by increase of acidity in such a way that any given oxygen tension corresponds to a lower percentage saturation, the displacement being proportionate throughout the curve. With a reduction in the H ion concentration the displacement is in the opposite sense. This sensitiveness of oxyhæmoglobin to hydrogen ions plays a great part in connexion with its function as a carrier of oxygen to the tissues. The high CO_2 tension in the tissues directly increases to a very marked degree the "capillary pressure head" (as Barcroft calls it) of oxygen which is available for determining the delivery of oxygen to the cells.

Indications Afforded by Oxyhæmoglobin Dissociation Curve.

In the hands of Barcroft and his co-workers the use of oxyhæmoglobin dissociation curves has given an extremely convenient method for detecting

[5] Journal of Physiology, vol. lxii., p. 283, 1911.
[6] Skandinavisches Archiv für Physiologie, 16, 390, 1904.

variations in the reaction of the blood of individuals under this or that condition. It determines extraordinarily small variations and only needs standardising to give an absolute measure. Suppose an individual has suffered some change of conditions and we wish to know if they have affected the chemical reaction of his blood. If, then, using 1 c.c. or so of blood one or two points on a curve are determined in the presence of the individual's normal alveolar CO_2 tension, we can learn whether or not other acids have been added to his blood. If the same determinations are made in the presence of an amount of CO_2 equal to the alveolar tension under the special existing conditions we can tell whether the blood has or has not actually changed in reaction.

Variations in the dissociation curve have proved to be of such practical importance that Barcroft has felt the necessity of introducing a new nomenclature in connexion with them. When the curve is normal it is proposed to speak of the blood as *mesectic*. When the curve is so displaced that more than a normal amount of oxygen is taken up at any given tension the blood is *pleonectic*. In cases when the absorption is proportionately subnormal the blood is *meionectic*. The effect of various conditions on the dissociation curve has been fully studied. Severe exercise, for instance, produces meionexy even though the carbonic acid tension of the blood is reduced. This is because lactic acid circulates in quantity more than sufficient to compensate for the diminished carbonic acid. The body gains by the increased hydrogen ion concentration in the blood, alike from the stimulation of the respiratory centre and the accelerated unloading of oxygen in the capillaries. Living at high altitudes induces a low degree of meionexy, which is sufficient, however, to be detected by close examination of the dissociation curves, and to correspond with an increase in H ions necessary to induce the increased activity of the respiratory centre. The acid which, in this case, just overcompensates for the diminution in carbonic acid seems, oddly enough, not to be lactic acid (Ryffel). A high degree of meionexy, however, due to increase of lactic acid in the blood, results from exercise at high altitudes. Barcroft calculates from data obtained on Monte Rosa that a rapid climb of 1000 feet starting from an altitude of 9000 feet reduced a normal hydrogen experiment of 7·29 to one of 7·09. This represents a very marked change in the chemical reaction of the blood.

In general it may be said that, other things being equal, so long as the blood remains mesectic an individual feels normal, even though the condition is maintained by the circulation of abnormal acids. If the blood becomes meionectic or pleonectic he feels unwell. But meionexy is not the efficient cause of mountain sickness. On the whole its establishment at high altitudes is possibly physiologically advantageous. Mountain sickness is probably due to a want of oxygen in the brain itself (Barcroft) which is established in spite of, rather than as a result of, the diminished alkalinity of the blood. The blood dissociation curve as an index of blood reaction has already become the subject of clinical studies. As you may be aware, Ryffel and Poulton, using Barcroft's methods, have shown that in cases of uræmia there may be marked meionexy due to excess of acid in the blood. The abnormal acid would seem not to be lactic acid. A very important research inspired and carried out on the clinical side by T. Lewis, and in the laboratory by Barcroft and others, has shown that clinical cases exist in which dyspnœa is a prominent symptom but from which an equivalent cyanosis is absent. The fundamental factor in these cases seems to be a renal deficiency which results in an increase in the proportion of acids to bases in the blood. The symptoms are really an expression of the consequent meionexy.

I have dealt very briefly with the very pregnant facts concerning the effects of blood reaction upon the transport of oxygen, wishing only to adduce them in illustration of my general theme. Others better entitled to deal with them in detail may come to occupy my present position. The labours of Haldane and of Barcroft certainly find fitting reference in these lectures, for nothing could prove more completely how our knowledge may advance by means of "experiments upon man himself," nor is any physiological knowledge more likely to add to our understanding of disease. A full account of the work and a most interesting discussion of its bearings will be found in an admirable book just published by Barcroft. In 1862 William Sharpey spoke with satisfaction of the advances then being made "in the chemical examination of the tissues and fluids, especially of the blood." He would certainly have found still greater satisfaction in the progress of the present moment.

THE BLOOD REACTION IN CLINICAL DISEASE.

The effects of changes in the blood reaction upon the respiratory mechanisms, nervous and chemical alike, are, as we have seen, of the clearest kind. It must be confessed that no evidence of similar cogency has been yet obtained concerning their effects upon other bodily functions, at least in respect of variations which may occur spontaneously. The existence of the clinical condition described by Lewis and Barcroft is proof enough that an altered blood reaction may be responsible for symptoms in disease, and I am quite sure we ought not to be deterred from suspecting its existence in any particular case merely because marked dyspnœa is absent. The disease itself may depress the sensitiveness of the respiratory centre. But I propose to say a little concerning the observations that have already been made in connexion with clinical disease.

As you will understand, I am not directly concerned with the phenomenon of acidosis in a general sense, but for the present at least only with the actual reaction of the blood. Abnormal acids may, as we know, circulate in the blood in many pathological conditions, but because of the high efficiency of adjustment in the body, they may long do so without producing a change in the actual reaction. Such a change we should expect only when the mechanisms concerned in the adjustment are overtaxed, or when they become themselves abnormal. We need direct proof of a real change of reaction in order to be sure what events may be correlated with it. But published estimations of the actual hydrogen ion concentration in the blood of disease have, so far, been but few, and for the most part of too little accuracy for us to build much upon them. The electrical method, as I have said, has only recently become available for proper estimations in the blood, and absolute accuracy is still difficult to secure with it. Barcroft's method is, I believe, really more satisfactory at the present moment, and one is glad to know that more

than one observer in this country is making use of it upon clinical material.

Observations in Various Conditions.

The only published observations of a considerable variety of conditions are those of Michaelis and Davidoff, who use the electrical method. Most of the results they obtained lie near to normal values, but they represent apparently single observations mostly made upon only one case of each disease. In diabetic coma they found a definite diminution of effective alkalinity. This finding we have, of course, long been led to expect, though the occurrence of any change of blood reaction in this condition has been denied. Some of the denials have been based upon results got by unreliable methods, and the question cannot be considered as settled. Kennaway, Pembrey, and Poulton[7] have lately pointed out that the alveolar tension of carbonic acid is the best guide to prognosis and treatment in diabetes. A value below 25 mm. is, according to these authors, of grave significance, and one below 20 mm. indicates that coma is imminent. One would think that these low values are associated with the establishment of a definite rise in the hydrogen ion. Dr. E. P. Poulton is engaged upon investigations which deal with the blood dissociation curve in diabetes. Evidence so obtained will, I have no doubt, settle the question for us.

In conditions such as those of cyclical vomiting, the vomiting of pregnancy, eclampsia, and the like, in which a possible intrusion of acidosis as a causal factor is suspected, we want clearly to know whether an actual change in the blood reaction has occurred before we can be clear as to the exact relations which exist. Michaelis and Davidoff give no data respecting these conditions. They found nearly normal values in chronic nephritis, though we have no information as to the type of the disease or of the stage at which it was studied. The older literature teems with observations showing a diminished titration alkalinity in uræmic conditions, and, as I have already mentioned, Poulton and Ryffel have discovered a real increase in the hydrogen ion concentration. The case of cancer is interesting, as while so many have found diminished alkalinity in malignant disease, the investigations of Benjamin Moore, described in 1907, pointed to a small but measurable increase of alkalinity as measured by titration. To these changes the author attached a causal significance. Michaelis and Davidoff found in carcinoma a normal hydrogen ion concentration, but it is clear that much more research will be required to establish the facts. The case of cancer blood may prove to be specially difficult to investigate from the point of view of hydrogen ion concentration. About a year ago I was engaged upon a study of the effect of certain diets upon cancer, and Barcroft examined the blood of some of my carcinoma-bearing rats. To all appearance there was a marked diminution of alkalinity, but Barcroft's scientific acumen prevented him from making a wrong conclusion on these lines. He found that the blood, owing to the existing anæmia and probably to the existence of newly formed corpuscles, showed a tendency to rapid self-reduction, and this accounted for the apparently meionectic dissociation curve. With any blood exhibiting within itself considerable metabolic change like this, an estimation of the ionic reaction may be difficult by any process. Michaelis and Davidoff found an appreciable diminution in the hydrogen ion concentration in cases with fever. This is a point of interest. It can be shown theoretically that a fluid such as blood should become more alkaline with a rise of temperature, and if, as seems to be the case, no complete adjustment due to increased acid production occurs in fever, we have good reason to believe that a more alkaline condition of the blood in fever plays its part in determining the increased metabolism. Oxidation processes are known to be increased in velocity by an increase in solution of the hydroxyl ion.

[7] Proceedings of the Physiological Society, Journal of Physiology, vol. xlvii., 1913.

ACUTE PANCREATITIS:

A CLINICAL STUDY OF SEVEN CASES; FIVE TREATED BY OPERATION SUCCESSFULLY.

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No apology is needed for recording even a single case of acute pancreatitis completely arrested by immediate operation on definite lines, but the one now first described is the second which I have recently seen and treated in the same way with recovery. And had it not been for the experience gained in the previous case[1] I hardly think the action taken in the last would have been so definite. Besides my own two cases, I am permitted by my colleagues Dr. Batty Shaw, Mr. R. Johnson, Mr. W. Trotter, and Mr. H. M. Davies to refer to further cases, five in number, which have been under treatment in University College Hospital since my first—three being equally successfully treated by operation, one fatal after operation, and one not operated on.

I am particularly obliged for this permission as a group of cases occurring close together as to time and treated by men closely associated is of special value. For few surgeons can claim to have had any very large experience of the disease in question as a field for operation, and fewer still to have had much success in dealing with it. This is a matter of some note in view of the countless abdominal catastrophes which we have all to treat nowadays. It may be best explained by the great difficulty in diagnosing pancreatic affections owing to the variety of clinical features they present in their several forms and the suddenness of the attacks. Here and there we read of individual cases met with in the course of abdominal explorations for obscure conditions, and some of these have recovered. But we are still in need of a clear clinical picture of the symptoms of acute pancreatitis and of definite guiding principles in operating for it. This may be seen from the classical and exhaustive monograph on the pancreas published in 1898 by Körte.[2] In this he reviews the whole literature of the subject up to that date, and states that as to any characteristic symptoms and signs of acute pancreatitis no advance had been made since Claessen in 1842 had expressed the opinion that "there *were none*." Only deep-seated pain in the epigastrium and possibly a swelling above the umbilicus, if present, were of value from a diagnostic point of view.

Since 1898 much more attention has been given

[1] Vide THE LANCET, 1910, vol. ii., p. 1284.

[2] Körte: Die Chirurgischen Krankheiten des Pankreas, Deutsche Chirurgie, 1898.

to these affections, especially as Körte had shown by successful operation in one case that they were curable by surgical interference. Their causation, morbid anatomy, and clinical history in uncomplicated cases have since been more accurately studied and recorded, and some advance in our general knowledge of them has been made. Nevertheless, the obscurity which hangs over these sudden attacks is very great, and definite characteristic diagnostic signs are still wanting.

That there are several different forms of the disease is now well known to all morbid anatomists. But whether these (most probably, if not positively, all directly or indirectly infective) differ simply in the virulence or duration of infection with the same organism, or whether they depend upon inoculation with totally different bacteria alone or combined, displaced secretions such as bile, or the succus entericus from the duodenum we do not know in spite of much study, both pathological and experimental. We do know that there is a chronic pancreatitis lasting a long time without immediately threatening life and presenting few, if any, marked symptoms until the organ is gravely compromised by interstitial fibrosis; also that there is an acute inflammation of the organ associated with the escape of much blood into its substance and around it (= acute hæmorrhagic pancreatitis); that there is a more localised suppurative form producing one or more distinct abscesses in the organ; and, finally, that there is a fulminating form in which, if the patient survive the severe shock of the onset, a very extensive and rapid sloughing of the organ and surrounding tissues gives a peculiar character to the process.

What relations these several varieties have to one another is not yet clear, and space forbids me to speculate about them here or to allude to the various views held in regard to them. But it is very desirable to keep them in mind when we have much general abdominal work to do, and in operating to note every morbid change *in vivo* in and around the pancreas which may help to explain them. Now that the patients suffering from these affections have begun to be saved by surgery, much that is obscure about the earlier morbid changes in and around the organ ought to be cleared up while the patient is living in a way impossible on the post-mortem table when the disease has much later proved fatal. Moreover, there is a practical value in acknowledging the above-mentioned varieties. A surgeon even suspecting that he has before him a case of acute pancreatitis will, when he has explored it, be able without loss of valuable time and a minimum of cutting and manipulation to modify his procedure to suit the particular variety. For no stereotyped practice appears to be suitable for all. It is one thing, for instance, to deal with a limited acute inflammation of the head or tail of the pancreas which has reached the omental sac and can be approached and drained through a median incision into this; it is quite another thing to attack a destructive process *early* which lies *behind* the peritoneum, is spreading in the retroperitoneal and mesenteric tissues, and has either already resulted in sloughing there or may be expected to do so ultimately, as we shall see. In the latter case an anterior incision and draining of the omental sac will *not* be adequate and a lateral one in the flank should be made to give access to the retroperitoneal area around the pancreas by burrowing behind the serous membrane, as was done in the first and last of these cases recorded below, and was suggested by Körte long ago. Had this been done in my earlier case (No. 2), at the outset the inflammatory process might have been arrested sooner and perhaps the second operation avoided. At all events, the serious adhesions which followed the second transperitoneal operation and which caused bad intestinal obstruction ten months later might have been prevented. This third operation, though very trying, was happily successful.

From these two cases in which it has fallen to my lot to operate for acute pancreatitis successfully I received the impression that possibly in some of its earlier stages the inflammation may be benefited, at all events for a time, by drainage of the omental sac. But where there has been much extravasation of blood or pancreatic juice at the onset, subsequent so-called "fat necrosis" and sloughing are sure to follow, and will require sooner or later to be drained, and this is most easily and safely done from behind by a tube introduced through the retroperitoneal tissues. In my earliest case (No. 2) simple drainage of the bursa omentalis was all that was done *at first* and with much temporary benefit, all the symptoms having subsided by the ninth day, when the stitches were removed from the healed abdominal median wound. Then after this deceptive pause the trouble recurred, and at the end of four days a swelling was found in the splenic region and reached by a transperitoneal incision in the left flank. This revealed advanced *subperitoneal* fat necrosis, as well as a large collection of blood-stained fluid in the peritoneum near the spleen. Drainage of both areas was followed by recovery, and the patient remains well. It seems obvious that had retroperitoneal drainage been provided in the first operation the second might have been unnecessary, and the intestinal adhesions requiring a third might have been prevented.

It seems also clear that it takes some time after the initial lesion for a necrotic process to develop an abscess (in this case nine or ten days), and that the drainage of the omental sac, though immediately beneficial, was not adequate to arrest it. But in the other two cases, Nos. 3 and 4, successfully operated on by my colleagues, the collection had actually burst into the omental sac and drainage of this cavity was sufficient, sloughs and pus coming away in large amount. Sloughs and altered blood clot also came away ultimately in my last case (No. 1) through the retroperitoneal opening in the flank, *but much later*, and I assume that the disintegrating process had only just started when I operated. As a matter of fact, the retroperitoneal drainage was interrupted by the premature shortening of the tube, which we thought was indicated by a temporary general and local improvement of conditions, and it was only when a fresh and larger one was reinserted right up to boggy tissue behind the pancreas in the middle of the fifth week that the products of disintegration came away freely with sloughs and altered blood clots and with rapid and permanent improvement. Still, the first tube as long as it worked was beneficial. Had it been left unshortened the process might have been cut much shorter. But feeling one's way on almost untrodden ground such as this is no easy matter. My idea in putting in a retroperitoneal drain at once was to anticipate changes which had been seen to follow even where the omental sac had little or nothing in it, and to minimise the spread of the process in the retroperitoneal tissue as far as

possible, as free drainage even of serum will do in other conditions.

It is worth emphasising once more that in my own two cases the destructive process in the subserous fat followed its chemical splitting up by the pancreatic juices at some considerable interval of time: as far as I can judge by symptoms and temperature chart at about the end of the second week. In Case 3 extensive sloughing was found four weeks after the onset. In Case 4 a grumous collection of broken-down blood clot 57 hours after the onset, which was very clearly indicated as to time. Fig. 1 (Case 5) shows the appearance of the pancreas five days after a well-defined onset; so far no sloughing is to be seen. Fig. 2 (Case 6) shows the condition 24 to 30 hours after the onset, beginning at 2 P.M. the previous day. Intense congestion and some fat necrosis are the only changes seen. It seems probable also from what was seen in my own two cases that every lobule of fat affected in this way does not necessarily lead up to suppuration. Many outlying lobules of whitened fat were seen in the omentum far from the pancreas. They gave rise to no sign during convalescence which could indicate that they had become the foci of inflammation. Probably they were absorbed in course of time. It may be that outlying lobules escape bacterial invasion, and that this is necessary for the sloughing usually associated with pancreatitis. But that the fat-splitting plays a part in this sloughing, and that this is more marked close around the organ where the bacteria would be more numerous appears more than likely.

An interesting observation bearing on this point was made by Körte (*loc. cit.*) in operating for acute cholecystitis. Here he noticed a "typical fat necrosis" with much peritoneal irritation, but without any ascertainable disease of the pancreas. A year later, in operating on the same patient for an impacted stone in the common duct, he found that all trace of fat necrosis had disappeared. It seems possible, however, that at the first operation a mild pancreatitis may have been overlooked. This would have accounted for the peritoneal irritation which is described as very marked. We have still much to learn both as to the nature and exact mode of production of fat necrosis in and around the pancreas, in the mesentery and omentum. But as a practical point, when it is recognised on exploring the abdomen in an acute case, it is the most valuable guide that we possess as to the nature of the ailment. In my own two cases it led almost at once to the right conclusion and to the right steps in treatment. When attention was first drawn to "fat necrosis" by Balser[3] in 1879–82 it was wrongly interpreted. Langerhans appears to have been the first to point out that the change in the fat cells was due to the fat-splitting effect of the pancreatic secretion, after which the fatty acids combine with calcium to produce the white material which is so characteristic and which leads to the destruction of the cells.

Later Hildebrandt proved experimentally that either an engorgement of the organ with its own secretion or with blood, or the escape of its own secretion into the peritoneum will produce typical fat necrosis in the pancreas itself, in the mesentery or omentum. If this be so there may be several ways in which the change may be produced. Injury as in some recorded cases; anything which arrests the passage of the pancreatic juices into the common bile-duct, whether it be a gall-stone or pancreatic concretion; inflammatory swelling due to infection in its duct, or, as suggested at the last International Medical Congress by Dr. Archibald, of Montreal,[4] a spasmodic contraction of the muscle around the outlet of the common duct into the duodenum due to irritating material in the latter may cause retention and ultimate extravasation of the fat-splitting pancreatic secretion; and those first changes noticed in early cases. Bacterial infection will do the rest, and in due time lead to extensive sloughing.

If this broad conception of the process be correct immediate and prolonged retroperitoneal drainage of the fat around the organ would appear to be the rational treatment. At all events this was the conception in my mind in the first of the cases in the list given below, and the result of the drainage was success in arresting the process, although the drainage was interrupted for some days. In another seventh similar case operated on during my absence last Easter in one of my beds by Mr. H. M. Davies success followed the same *retroperitoneal* drainage through the right flank. The details will be published later.

The following notes are abstracted from the more voluminous clinical reports of the cases, but contain all the essential facts and observations made at the time.

CASE 1.—On Nov. 12th, 1913, I was hurriedly called by Dr. A. Binning, of Hatfield, to see a patient who had been suddenly seized with very severe abdominal symptoms the previous evening; and I may say at once that it was to Dr. Binning's promptness in recognising the gravity of the condition as much as to anything done by operation that the patient owes his life.

The patient had been in the army and had served abroad. Health always excellent until recently. Physique splendid but inclined to stoutness. Family history good. At 12 years of age had typhoid; was ill 13 weeks. Had fever for four days in Malta in 1904 but none since. Has had colicky pains at times, relieved by wearing a belt. Earlier in 1913 had a severe attack of abdominal pain and shivering, which caused him to roll on the floor; this passed off the same night. No syphilis or gonorrhœa. Lived very generously, drinking about 4 pints of beer and occasional spirits daily and eating much. Before the present attack he had for 12 months no energy and frequently vomited greenish fluid in the morning. Smoked cigarettes by preference.

The present attack began on Nov. 8th. The patient had felt tired and drowsy all the afternoon and evening; no pain. Had had usual four pints of ale and one glass of port. Nov. 9th: Better, but tired and drowsy as before; vomited phlegm at 7 P.M., and again at 10 P.M., when there was a sharp pain across the abdomen "as if something had given way," and which kept getting worse until the operation. Nov. 10th: Had had no sleep and could not stand up for the pain; felt sick all day but did not vomit. Nov. 11th: Saw Dr. Binning and was sent to bed. Bowels acted after calomel. Nov. 12th: Was much worse in the morning; pulse 116. I saw the patient at 2 o'clock.

The appearance of the patient indicated a very grave intra-abdominal catastrophe. The pain was exceedingly severe and vomiting had taken place. Pulse feeble, 120, temperature 100·2° F. Face wore a look of great distress and was pale and cyanosed. The abdomen distended, and this was increasing. It was soft below, harder above the navel, where the pain was most intense. Tenderness was extreme above and on each side of the umbilicus, but most over the head of the pancreas. Tumour could not be made out on account of rigidity. No specially distended coils. No particular tenderness or dulness over the appendix. Flanks clear on percussion. The vomited matter was bilious and contained no blood. My diagnosis was provisionally perforated gastric or duodenal ulcer, but pancreatitis was considered.

[3] Balser: Virchow's Archiv, Band xc., p. 520.

[4] E. Archibald: Transactions of International Medical Congress, Section VII., Surgery, p. 21.

Operation on Nov. 12th at 8 P.M., assisted by Dr. Binning. Median incision above the navel showed much intraperitoneal turbid fluid as in my earlier case No. 2 and in No. 4. This lay mostly in the upper abdomen over the right kidney. The stomach was carefully examined anteriorly and through the omental sac, opened for the purpose. It was quite sound. The omental sac contained no fluid. Great congestion and general shagginess of the peritoneum over the head of the pancreas was very striking. The organ was swollen to the size of a large fist at its right end, and showed fresh exudation of lymph. When the depression to the right of the duodenum was sponged dry the peritoneum was seen to be bulged forwards with chalk-white subperitoneal fat in which were a few hæmorrhages. This white material extended on the right of the spinal column from the head of the pancreas upwards to the liver border. It had not broken through its serous covering. Its appearance was so characteristic taken with the swollen pancreas as at once to clear up the nature of the disorder. It was obviously very acute pancreatitis in a fairly early stage.

The problem now was what to do. It was no use to drain the sac of the omentum, as was done in my earlier case, as it was empty and there were no signs of the process advancing into it. On the other hand, it seemed risky to incise the swollen area and allow the inflammatory products to escape into the peritoneal cavity and drain through this, in view of the serious adhesions from similar drainage which nearly cost my earlier patient her life. I therefore made a two-inch incision below the last rib on the right side and deepened it down to the subperitoneal fat. With my left hand within the abdomen between the duodenum and the kidney I got the direction and then tunnelled with the right forefinger through the fat behind the peritoneum up to the head of the pancreas. This was not so difficult as expected. A long large drainage-tube was introduced along this track to the head of the organ to provide for the escape of serum in the first place and the products of the inflammation as they were formed. As an extra possible drain for the pancreas the gall-bladder was drawn into the upper angle of the abdominal wound and stitched there. It showed no signs of disease, contained no calculi, and could be emptied by gentle pressure into the duodenum, showing there was no obstruction of the cystic or common duct. When opened it was found to contain perfectly normal bile (*vide* note of Nov. 27th for contrast), which was drained by a rubber tube into a bottle outside the dressings. The median wound was then stitched up in layers. The intestines had been seen to be a little distended and hyperæmic, but not paralysed; there was much turbid fluid to be mopped away in the upper part of the abdominal cavity.

The patient's condition during the operation was generally good, as reported by Dr. Dudley Buxton, who gave the anæsthetic (chloroform plus oxygen). Pulse at the end 120. The next day the condition was improved; pulse 110 to 116. During the first week the chief features of the case were reduction of pulse-rate and temperature, profuse sweating, sleeplessness, restlessness, and tendency to wandering at night; cyanosis still notable at times. There was also an attack of foul diarrhœa on the fourth day. In the second week general improvement; pulse 88 to 98; but temperature 97° to 101°. Profuse sweating continued for first four weeks. After the diarrhœa on fourth day there was always constipation and flatulence, only relieved by enemata. At no time was fat detected in the motions, though looked for carefully. The stitches in the anterior wound were removed on the twelfth day (Nov. 23rd); perfect primary union. Gall-bladder in upper angle draining well.

Third week much general improvement; food taken well. The gall-bladder yielded abundance of pure clear bile. The tube in the flank drained so little and the progress generally seemed so favourable that it had been shortened by degrees to about two inches. On Nov. 27th (sixteenth day) temperature rose to 101° for the whole day, and at this time Dr. Binning noticed a deposit in the bile bottle, which was proved by microscopic examination to be pus. It amounted to about an inch deep in a six-ounce bottle. This pus came away in the bile freely for about a week from the 27th, the temperature at the same time falling steadily to normal on the 31st. On Dec. 3rd the temperature rose once to 102°, then dropped to absolute normal for 4th, 5th, and 6th, on the 7th it again began to oscillate about 100° to 101°, and on the 10th it once touched 102°. This fairly regular oscillation lasted for the next two weeks each day and then fell permanently to normal with the re-establishment of free drainage from the track in the flank which had become partly closed.

During the week of highest temperature (Dec. 9th to 16th) the patient had two nervous explosions of a very startling kind with a day of very good condition in between them. They had been preceded by the disappearance of the pus in the bile, which had been abundant for 12 days, and by the fall in temperature mentioned above. On some of the previous days severe headache had been complained of and vomiting had occurred, but on the 8th, 9th, and 10th he was noted as having had "very comfortable" days without headache or sickness. Then on Dec. 11th, at 5 P.M., he had the first of these strange attacks, which I can only suppose were of the same nature as the "tetany" seen sometimes with pyloric obstruction and in cases of severe diarrhœa in children, and described by Dr. F. J. Poynton and others. The nurse's notes, which were admirable all through the case, may be given in abstract as checked by Dr. Binning. "At 5 P.M. patient felt very faint; complained of not being able to see or breathe properly; pulse quick and small. 5.30, suddenly became rigid for a few seconds and unable to speak; remained so for nearly 30 minutes; convulsed at intervals." At 6.30 saline rectal injections were attempted, but excited the patient, who then commenced to scream and get violent; tried to vomit. Violent and convulsed off and on until 7.10, when he was seen by Dr. Binning, who described this condition to me at once over the house telephone, and suggested putting the patient under chloroform, to which I agreed. This was done at 7.30 with immediate effect. At 8 o'clock he was again awake, quite sensible and quiet; temperature 101°, pulse 114. He was soon inclined to sleep and had a quiet night; passed 8 oz. of clear normal urine. A sample about this time sent to University College Hospital for analysis. Dr. F. H. Thiele reported that the Cammidge test gave a positive result. The following day and night were very comfortable, the sweating was gone, urine free, normal.

On the 13th a similar attack to that on the 11th occurred, but less severe. He was "wandering" frequently during the evening, but slept well the following night and seemed to have no recollection of the attack. I saw the patient the next day, and feeling that the shortening of the tube in the flank might have contributed to the fever, &c., as very little discharge came from it now, I enlarged it with my finger as far as I could reach. At a depth which must have been close to the duodenum the finger came upon a quantity of pulpy material behind the peritoneum. Into this I pushed a longer and larger drain-tube. This was all done under light chloroform anæsthesia. The fomentations were continued as before.

From this on there was no further serious trouble. Very free discharge was soon established through the tube, and several sloughs, large and small, came away during the next 12 days, which on examination were believed to be bits of the pancreas. Small portions of broken-down old blood clots were frequently noted, and also from the 22nd to 29th that "small white spots" were present in the discharge, which during that time was very offensive and varying in amount. After the reinsertion of the tube on Dec. 14th the temperature varied between 98° and 101°, and on the 24th it touched 102°. After this, as the discharge from the flank became free and offensive, the temperature fell to 99°, and a couple of days later to normal. After Dec. 25th the retroperitoneal discharge became less and less in amount and in foulness, and the tube could be gradually shortened. The last slough came away on Jan. 5th. After this convalescence was rapid and the patient was able to go to the seaside at the beginning of February. The relation of the appearance of much pus in the bile, and the tetany, to defective drainage from behind seems clear, especially as these symptoms disappeared and convalescence was rapid when the tube had been effectively reinserted and acted well.

CASE 2.—Mrs. A, aged 40, was admitted into University College Hospital on Feb. 21st, 1910. Two days earlier severe griping pain set in above the navel. She vomited and trembled with pain, but there was no definite rigor. The pain was paroxysmal. Bowels confined since Feb. 13th, no flatus; no result from two enemata on 21st. Past history: Six years ago a similar attack after birth of first

child, accompanied by vomiting and constipation. Describes another lasting 48 hours soon after the birth of the last child six months ago; no jaundice. Present state: Well nourished; no facies suggesting acute peritonitis. Temperature 101·4° F.; pulse 124. Abdomen soft and not distended. Pain in epigastrium, left hypochondrium, and left lumbar region. No dulness in flanks; liver dulness normal. No blood, sugar, or albumin in urine. No shock, but patient looked very ill. Diagnosis doubtful; exploration necessary.

Operation on Feb. 21st at 9 P.M. Median incision below umbilicus. There was a considerable amount of thin, slightly turbid fluid in the general peritoneal cavity. The small intestine wherever seen was markedly injected, slightly dilated, but not paralysed. Search throughout its length for anything abnormal was negative except for a few flakes of lymph above. The colon was then drawn down and spots of "fat necrosis" were seen in the omentum, which at once suggested to me the true nature of the case as one of acute pancreatitis. The omental sac was opened between the stomach and colon. There was no fluid in it, but more patches of fat necrosis were seen, in greater number as the pancreas was approached. The organ itself was hardened especially about its head, but there was no evidence of breaking-down tissue or hæmorrhagic change around it. Nothing more than drainage of the omental sac was done. The wound was closed after a piece of omentum containing fat necrosis had been excised for examination. The change in the fat lobules was typical and showed up grass-green with Benda's stain. (Contrast Fig. 1 from Case 5.)

The patient rapidly improved and the stitches were removed on the tenth day; primary union. On March 3rd (eleventh day after operation, thirteenth after onset) severe pain set in "from nipples to navel." There was tenderness over the whole abdomen, but most at the tip of the right ninth costal cartilage. Pulse 124; temperature 98°. At 10 A.M. morphia was given, but pain continued all day. Vomiting began at 4 P.M. up to 2 oz. in three acts. March 4th: Temperature 100° in the morning and 101° in evening. Vomited in all 12 oz. Seemed better in spite of pain; abdomen not distended any more. Pain had shifted to tip of left tenth costal cartilage.

On March 5th the pain and tenderness had increased; temperature 101°. In the evening under chloroform a swelling was now felt in the left hypochondrium, and I made an incision commencing 2 inches to the left of the umbilicus and running backwards and upwards for some 4 to 5 inches. Fat necrosis was at once recognised in the subperitoneal tissues, and portions were removed for analysis. The peritoneum was then opened far back, and about 6 oz. of blood-stained fluid mixed with pus escaped. This was followed by very free venous bleeding, which ceased on the introduction of a large drain-tube. The mass felt before the operation was now found to be the enlarged body of the pancreas. The spleen was not enlarged. For the next five days there was steady improvement, with much discharge. Temperature generally about 100°. There was a return of pain in the right hypochondrium on March 10th, with rise of temperature to 102° and vomiting; no rigor. This severe pain continued over a palpable mass below the navel; no jaundice. The pain then subsided and steady convalescence followed.

The patient was discharged well on March 31st, 1910. She remained well until the following October, when she was re-admitted for bad intestinal obstruction by band and volvulus in the left flank. This I released by a third operation through the old scar in the flank. She has been well ever since. On this occasion I examined the conditions in and around the pancreas and found nothing abnormal remained from the former attack. Had retroperitoneal drainage been carried out somewhat earlier it seems probable that the peritoneal adhesions requiring this third operation would not have been produced. The notable improvement for 11 days which followed the drainage of the omental sac was deceptive. Around the pancreas the disintegrating process was steadily advancing and could only be approached from behind.

CASE 3.—The patient, a widow aged 42, was admitted into University College Hospital on April 3rd, 1911, complaining of "pain in the stomach soon after food for the last four weeks." It was stated to go through to the back and be relieved by vomiting. It sometimes occurred immediately, sometimes two or three hours after food. The vomit at first was dark, then in last few days greenish. She described a similar attack in previous August; was subject to "biliousness." On admission there were rigidity of abdominal wall and general tenderness, most severe in right epigastrium. Frequent vomiting occurred, and rectal feeding was adopted. On April 11th, under an anæsthetic, a mass of the size of a coconut was found in the umbilical region. It was distinct from the liver and well defined below; movement with respiration doubtful.

On April 12th Mr. H. Morriston Davies made a 3½ inch vertical incision through the upper part of the right rectus muscle half an inch to the right of the middle line. An elastic mass was found behind the stomach and transverse colon. Above, it reached to the liver, below to 3 inches below the navel, and on each side 3 inches from the latter. The small intestines were found adherent to the cystic mass below the colon, and on separating them an opening was made into it accidentally, dark grumous fluid escaping. The parts had been previously packed with gauze. More fluid followed by a large sloughy mass was squeezed out. It proved to be part of the pancreas. The upper part of the swelling was firmly adherent to the transverse colon and pressed upon the duodenum and bile ducts. Gall-bladder distended but healthy. The cavity was further opened between the stomach and colon, and about a pint more of the grumous fluid evacuated. Both openings above and below the colon were drained with large rubber tubes brought out of the abdominal wound, which was stitched up. Convalescence progressed steadily, some irritation of the skin from the discharge being the only check. On May 1st another large slough came through the upper opening. All well by May 18th and patient left for home on 19th. The temperature was never very high, 100·6° F. being the highest on April 20th; after this the average was 99°.

CASE 4.—The patient, a man aged 39, was admitted to University College Hospital on Sunday, August 6th, 1911, at 12 noon, for pain, vomiting, and absence of stools for 48 hours. Until recently had been in usual health and only returned from a week's holiday in the country the previous Monday. Violent pain in abdomen set in 48 hours ago sufficient to make him rest, but it passed off and he went to work. At midnight the pain returned intensely and he vomited at first food, then bile and slime. No sickness since noon on Saturday. But the pain had persisted always in the umbilical region without radiating. No flatus or stools since Friday in spite of enemata.

Previous history: Described a similar attack in July, 1906, with intense pain in the abdomen for two days with vomiting and constipation. He remained in bed then for 11 weeks with symptoms apparently of gastroenteritis. In 1907 he had a similar attack and was in bed for three weeks. In 1908 a third attack like it; in bed one week. Since then quite well on careful dieting. Never jaundiced; never lived abroad. Influenza 20 years ago.

Present state: Looked ill and anxious and complained of pain in abdomen; resented being moved. Temperature 100° F.; pulse 108. The abdomen moved fairly to respiration; was distended generally; umbilical region specially prominent, more on left than right. No bulging in flanks, but slight shifting dulness; otherwise resonant. Liver dulness normal. There was tenderness, not very marked, below the navel more to left than right, but no hyperæsthesia of the skin. Owing to rigidity no definite tumour could be felt anywhere, but the resistance suggested distended gut. No visible peristalsis. Organs sound; rectum empty. At 4 P.M. bowels still not moved; no vomiting. Temperature 99·4°; pulse 112. At 6 P.M. pain and distension more marked; pulse 120.

Operation by Mr. Wilfred Trotter on August 6th at 9 P.M. Median incision below navel. Much yellowish peritoneal fluid escaped; no obstruction of bowel; appendix normal. Small bowel in middle of its length distended and hyperæmic, but no peritonitis. Mesentery dotted with fat necrosis. Incision prolonged upwards; gastrocolic omentum bluish in colour, bulged forward by fluid in omental sac. On incision dark, blood-stained fluid welled out quite unlike that in the general cavity of the peritoneum. This was explained by the fact that the foramen of Winslow was closed by lymph. About 1 to 1½ pints of liquid escaped from the sac of the omentum, which was sponged dry. The pancreas was now seen to be greatly swollen, covered with lymph, and its

central part very dark, much enlarged, and infiltrated with blood. No incision into the organ was made, reliance being placed on drainage of the omental sac. This was provided for by a rubber tube and gauze enveloped in oil silk going down to the pancreas. Wound stitched up round these.

Condition after operation fair; pulse 120; respiration 32; some cyanosis. At midnight shock was marked, but gave way to restoratives. August 7th: General improvement; temperature 98°; pulse 120; flatus passed; no vomit; urine normal, no sugar. From this on to August 27th steady convalescence; discharge less and less. The brownish particles seen in the pus of Case 1 are noted as present here too. There was no irritation of the skin from the secretions as in Case 3. The urine tested by Cammidge's method gave negative result. With the exception of some sickness due to error in diet on August 27th, there is nothing further to report before the patient left hospital on Sept. 9th quite well. During convalescence there was a tendency to constipation.

CASE 5.—The patient, a well-nourished man aged 52, was admitted into University College Hospital on June 17th, 1913, under Dr. Batty Shaw's care, with a history of "pains below the navel and reaching round the back, scanty urine and retching" for three days. Bowels not moved since the 15th. Temperature 99° F.; pulse 60; respiration 30. His habits appeared to have been regular; internal organs fairly healthy; occasional headaches; appetite good up to the 15th. Nothing notable in family history on past illnesses.

Present state: Pain and tenderness at umbilicus, mostly just below it; some rigidity in this region. Abdomen did not move with respiration; flanks bulging; no dyspnœa. Rectal examination negative. Washing out brought away practically no motion, but much membranous material suggesting colitis. Temperature 100·4°.

June 18th: Had been sick twice to 6 oz. At 3 P.M. vomited 16 oz. of dark brownish material. At 4 P.M. feeling worse; marked hiccoughing frequently. Temperature 98·4°; pulse had risen to 120, and was weaker. Abdomen now

FIG. 1.

CASE 5.—Acute hæmorrhagic pancreatitis. A, Omentum showing fat necrosis stained green by Benda's copper method (the green stain comes out black in the illustration). B, Pancreas showing *a*, hæmorrhagic patch; *b*, *b*, fat necrosis unstained.

slightly distended; no marked increase in tenderness, which was now most evident in the epigastrium. Intestinal obstruction diagnosed. Operation at 11 P.M. same day by Mr. Trotter; median incision. Patient died the next morning, a few hours after operation.

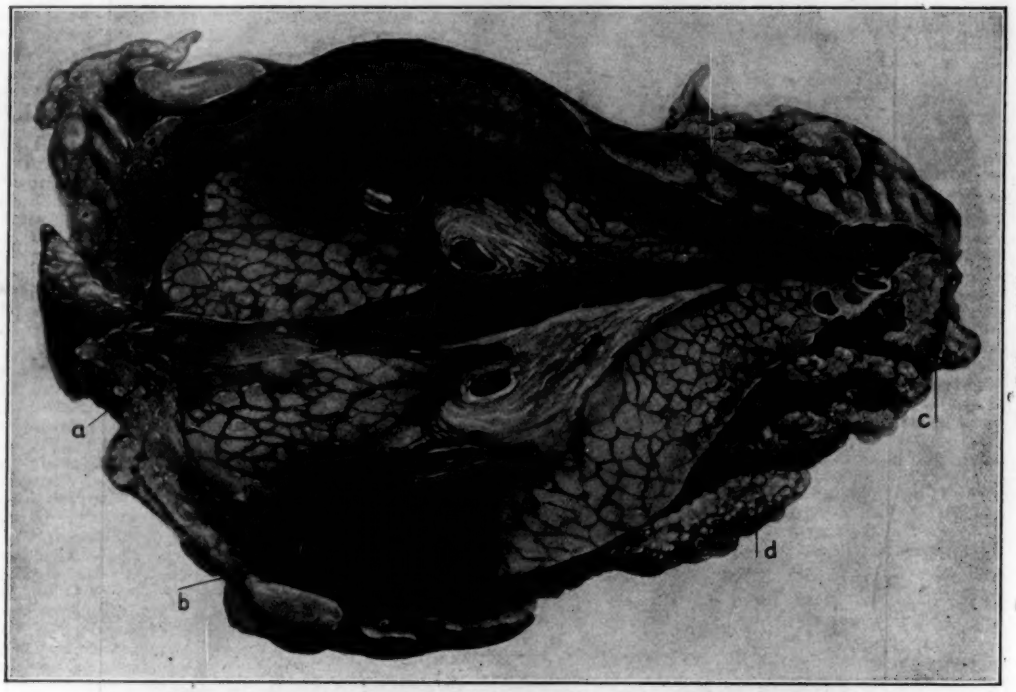
Post-mortem notes, by Pathologist, June 19th, 1913:—"Lungs: Both very œdematous and congested; extensive adhesions in pleuræ. Peritoneum: numbers of small nodules of fat necrosis are present in the great omentum, root of mesentery, fatty capsule of kidneys, and fat about the pancreas. Pancreas: greatly swollen, the head measuring 2 inches from before backwards; extensively hæmorrhagic and in places broken down and showing islands of fat necrosis. The duodenal end of the duct is distended with a number of small calculi; no pus present. (Fig. 1.) Liver: shows cloudy changes; gall-bladder, ducts, and bile papillæ are normal. Stomach and intestines: stomach lining shows scattered submucous hæmorrhages; these are also present in the upper part of the ileum, and some of them are ulcerated. The intestines contain brown fluid. Spleen soft, follicles enlarged. Kidneys normal."

CASE 6.—The patient, a single man aged 65, was admitted into University College Hospital on Feb. 22nd, 1914, for severe abdominal pain beginning at 2 P.M. on the day before and lasting ever since. The pain was not localised. Vomiting began soon after the onset and occurred 12 times before admission. Flatus but no motion passed last night. Had been in good health until the 21st. The attack came on after a good meal. When seen by Mr. Raymond Johnson cyanosis was very marked even in the fingers. The man appeared desperately ill and collapsed. Pulse 130, intermittent; respiration 38; temperature 97·1° F. Tongue dry. Abdomen slightly distended towards the left iliac region; did not move with respiration. Tenderness and rigidity were general. No definite tumour could be felt in the abdomen. Nothing abnormal could be detected in the chest.

In view of the general condition of the patient it was felt that any operation was out of the question. Mr. Johnson's diagnosis was acute pancreatitis. He thought nothing else would account for the condition of severe pain, extreme cyanosis, and collapse after sudden onset, so well, though no tumour was discoverable. The patient died a few hours after admission, and the post-mortem examination showed that he was right.

Pathologist's report:—Abdomen: "About half a pint of opaque, blood-stained fluid in the abdominal cavity; a few flakes of fibrinous exudation in places. Scattered areas of fat necrosis of small size in the omentum; larger areas in the retroperitoneal tissue below the pancreas, where also there is considerable extravasation into the areolar tissue. The pancreas is greatly swollen with much extravasation of blood on its surface and into the septa between its lobules. There are numerous white areas of fat necrosis on the surface of the organ. There is no sloughing or breaking down of the pancreatic tissue, except at one spot, which is somewhat softened and of a grey red colour. (Fig. 2.) Stomach: dilated; scattered petechiæ on its mucous membrane and swelling of its follicles. Spleen: small and diffluent. Liver: soft; no gall-stones; lining of gall-bladder and ducts normal. Kidneys soft; heart normal. Lungs both extremely congested."

FIG. 2.



CASE 6.—Acute hæmorrhagic pancreatitis. Mr. Johnson's case, Feb. 22nd, 1914 (not operated on). *a*, Wirsung's duct inflamed in middle portion. *b*, Head of pancreas much swollen and hæmorrhagic. *c*, Fat necrosis stained green by Benda's copper method (the green stain comes out black in the illustration). *d*, Unaltered fat tissue.

Looking at this group of cases and endeavouring to construct from them a clinical picture which may be of use in the future, one is first struck with the fact that in three the patients described similar attacks at long intervals antecedent to that for which they sought surgical help. In Case 2 there were two, one six years and one six months before the last; both after normal childbirth. In Case 3 there was one attack nine months previously described as quite similar to the last. It was

not related to labour. In Case 4 the patient, a male, described three illnesses of the same kind, the first five years before (in bed 11 weeks), the second four years before (in bed for three weeks), and the third three years before (for which he remained in bed one week). In my own last case (No. 1) the attack for which I operated may have been his first. But there is a history of very severe abdominal pain and shivering earlier in 1913, causing him to roll on the floor, and lasting some hours, which may have been an illness of the same nature but not so deadly. If the present attack was the first, that and the fact that it was taken in hand early may account for the more limited area involved around the much swollen and inflamed pancreas. It may be recalled that the sac of the omentum was empty, but that there was extensive fat necrosis in the retroperitoneal tissues but no sloughing at the moment of operation. This took place later.

Another point noted as regards past history was that in two cases, Nos. 1 and 4, there was much gastric trouble for some time previous to the attacks; and in No. 2 the teeth were in very bad condition indeed, which, as we know, is usually associated with stomach derangement. In No. 3 the patient stated that she was subject to "frequent biliousness" before her attack.

In none of the cases was there anything in the history to suggest derangement of the biliary apparatus except doubtful jaundice in a previous attack in No. 2. Nor at the operations was anything wrong found in the gall-bladder. In No. 1 I opened it simply as a possible means of relief for the inflamed pancreas. The bile, which was drained through a tube into a bottle, was perfectly normal for 24 days. It was, however, of very great interest to note that at about the time when the exacerbation of symptoms followed by "fits" (tetany) came on (thirtieth day) the previously clear bile became turbid, and a considerable sediment of pus was found in the bottle for about a week. From the improvement which followed on this both in the general condition and the bile it seems clear that this pus found its way from the inflamed pancreas into its duct, then into the common duct, and thus into the gall-bladder. In Case 6 there was no time for actual destructive change in or around the organ. The patient was killed outright by the shock of the onset in a few hours, and before any surgical relief could be undertaken. Case 5, too, had not advanced to sloughing. Case 7 was precisely like No. 1, but not so severe.

The onset of the attack in all these cases was strikingly *sudden* except in No. 3, in which four weeks of "pain after food" elapsed before the condition was thought grave enough to call for admission into hospital. In the others, except for indefinite gastric disturbance, *sudden* severe pain in the epigastrium was the first and most prominent symptom. This was always described as very intense, and in my own last case (No. 1), where I had the opportunity of seeing the patient very early, the powerful man appeared to be suffering horribly and was pallid and markedly cyanosed. This cyanosis lasted some days after operation. In Mr. Johnson's case (No. 6) the suffering was very severe and accompanied by extreme cyanosis and collapse which rapidly ended in death.

The temperature in all cases was relatively low at the onset. In Case 6 it was 97·1° F., indicating severe shock from which the patient died before any operation was done. The pulse was rapid and gradually increasing while losing tension. Vomiting was usual at the onset in these cases, not so prominent a feature later. The material brought up was usually bilious with mucus. In no case was a tumour found in the region of the pancreas without an anæsthetic. In one case only was one discovered just before the operation when the anæsthetic had been given.

On opening the abdomen turbid peritoneal fluid was found in three cases at operation (and in one, Case 6, not operated on) in considerable amount. The intestines were injected and dilated in four out of the five cases operated on, but not paralysed. They had not the appearance of being actually inflamed, their lustre being unimpaired, and showing no lymph upon them. But lymph was found in three cases in the neighbourhood of the pancreas.

From the character of the discharges coming from the inflamed gland there was only evidence of hæmorrhage into or around it in three (Cases 1, 2, and 4). Perhaps the grumous fluid which came away with sloughs in No. 3 indicated broken-down clot, but it is hard to say, as the operation was performed four weeks after the onset; the attack was probably less acute than in the other instances. The omental sac was opened in all the six cases operated on, but only in three had the destructive process made its way into it.

Six of the cases here reported are the only instances of acute pancreatitis which have occurred in our hospital in the last five years. With my own private case there are six operated on by members of the staff; and it is encouraging to find that five have been saved. One was too far gone to admit of any operation, and one died the morning after an attempt had been made to arrest the destructive process by surgical interference. As the disease becomes better understood and is dealt with in its earlier stages better things may be expected.

I have dealt with this series as a purely clinical study in spite of the temptation to speculate at any length as to its pathology.

Harley-street, W.

THE annual general meeting of the National Society of Day Nurseries will be held at 35, Chesham-place, S.W., on Thursday, June 11th, at 4 P.M.

LIVINGSTONE COLLEGE: COMMEMORATION DAY.—Saturday, June 13th, Commemoration Day at Livingstone College, marks an important stage in the history of this missionary auxiliary, inasmuch as it is 21 years since the college was founded. From 3 to 3.20 in the afternoon there will be a reception by the Principal and Mrs. C. F. Harford, after which a meeting will be held in the grounds of the college under the presidency of the Bishop of Chelmsford. The speakers will include Dr. Ernest N. Cook, one of the staff of the Mengo Mission Hospital in Uganda. Dr. Loftus E. Wigram, the vice-principal, who is to succeed Dr. Harford as principal, will also take part in the proceedings. After the meeting an opportunity will be given for visitors to view the college. It will be remembered that an appeal was made last year for a sum of £10,000 to form a Livingstone Centenary Fund in order that the college might be placed on a sound financial footing. Only £640 have been received in answer to this appeal. It is hoped that before Dr. and Mrs. Harford leave the college in July next the mortgage on the property, amounting to £3500, may be cleared off. Applications for tickets should be made to the Principal, Livingstone College, Leyton, E., who will gladly receive any contributions towards liquidating the mortgage or towards the special endowment fund.

THE USE OF NEOSALVARSAN IN ACTIVE PULMONARY TUBERCULOSIS.

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THE treatment of patients suffering from pulmonary tuberculosis in the acute and subacute stage, in which fever is present and the disease steadily progressing, is often a source of grave anxiety to the physician.

As the result of rest in bed for a longer or shorter period the temperature may gradually fall and finally reach normal, and such a condition may be permanent. But in many cases it is long before even absolute rest produces any effect, and in others it fails entirely. Antipyretics, such as cryogenin or maretin, may succeed in bringing down the temperature, but as a rule their effect is merely temporary, and when the administration of the drug is discontinued the temperature rises again. In other cases quinine may do good, or arsenic, given preferably as the sodium cacodylate by subcutaneous injection. But not infrequently such remedies fail, and a like result attends the inhalation of volatile antiseptics, the employment of intravenous injections of iodoform, or the use of such vaunted remedies as pneumosan or dioradin.

Under such circumstances tuberculin has sometimes been advised. It has not, however, been my good fortune to observe defervescence follow its use, and on other grounds its administration in acute cases does not appear advisable. Disappointing, too, has been the use of secondary vaccines prepared from the sputum, possibly because, as Dr. J. A. D. Radcliffe, of the King Edward VII. Sanatorium, and others have shown, the organisms isolated come as a rule merely from the mouth and bronchi, and are not in reality an index of a true secondary infection.

A certain number of acute cases, in which the disease is limited to one lung, are suitable for treatment by artificial pneumothorax, and if satisfactory compression is obtained the temperature falls and the patient gradually regains his health and strength to a greater or less degree. Such treatment, however, is lengthy, is not suitable for the majority of cases, and the process, moreover, is not entirely devoid of risk. Under such circumstances the following notes of certain cases treated with neosalvarsan may be of interest, for in them the use of the remedy was followed by a fall in the temperature and an improvement in the general condition of the patient.

The use of neosalvarsan suggested itself to me owing to the fact that some little time ago a patient was admitted into my wards at the Brompton Hospital suffering from extensive pulmonary tuberculosis of an active febrile type, both lungs being diseased, but the patient giving in addition a history of syphilis. On this account treatment with salvarsan was prescribed and with good results, the patient's condition being materially improved on his leaving the hospital. Shortly afterwards another patient was admitted under my care into St. Bartholomew's Hospital. She was exceedingly ill with extensive tuberculous disease in both lungs and with high fever, but without any history or evidence pointing to syphilis. So ill was she that it was believed that she would not live more than a few days. Remembering the improvement in the preceding case, I prescribed, though with some hesitation, owing to the patient's serious condition, an injection of neosalvarsan, and here again considerable improvement followed, and she was able some weeks later to be transferred to the infirmary.

Bearing the above facts in mind it appeared desirable to try more systematically the effect of neosalvarsan in the treatment of cases of acute and active pulmonary tuberculosis, in which other means had failed to bring the temperature to normal and to arrest the further progress of the disease. This I accordingly did with the help of my house physician, Dr. J. N. MacBean Ross, to whose care and skill in the treatment of these cases, as also for help in the preparation of these notes, I am much indebted.

The neosalvarsan was given by intravenous injection and for this purpose the ordinary method of procedure is best adopted. Strict antiseptic precautions must be enjoined and great care taken that the water (about 125 c.c.) in which the remedy is dissolved has been *freshly distilled*.

During the administration of the drug, as with other arsenical compounds, a watch should be kept upon the knee-jerks and the fields of vision, so that warning may be given of any possible toxic effects upon the nervous system. But none such have been observed in the 16 cases treated.

Of those reported in this paper Case 1 shows the effect of treatment in active pulmonary tuberculosis, in which, however, the patient gave a history of syphilis, and in which the Wassermann reaction was positive. The other three here detailed are cases of simple pulmonary tuberculosis of an advanced and active type.

CASE 1.—The patient, a male, aged 31 years, was admitted into the Brompton Hospital on August 18th, 1913, suffering from a severe cough of five months' duration, emaciation, night-sweats, and a very husky voice. He had been losing weight, and now weighed 9 st. 10 lb. The evening temperature varied between 99·2° and 101·6° F.; pulse, 88; and respirations, 20.

On examination signs of infiltration and excavation were detected at the right apex, and of infiltration at the left apex and at the apex of the right lower lobe. The larynx showed a general infiltration with some subglottic infiltration, the appearance suggesting the possibility of syphilis to my colleague, Dr. Dundas Grant, who kindly examined the case. The Wassermann reaction, when tested, proved markedly positive. The sputum, which was somewhat large in amount, was tested on several occasions for tubercle bacilli, and on Dec. 20th a few were discovered by the antiformin method.

The patient remained in bed, but as the temperature was still swinging (see Chart), neosalvarsan (0·9 gramme) was on Sept. 10th injected intravenously into the right arm. The patient had a feeling of malaise for some hours following the injection, but no vomiting, and there was no pain in the arm. Three days after the injection the temperature rapidly fell, and by Sept. 17th it reached normal. The cough was greatly improved, the patient felt much better, and he was gaining in weight. On the 23rd, as the temperature showed signs of rising again, a second injection of neosalvarsan (0·9 gramme) was given. This was followed by a feeling of nausea but no vomiting. The temperature steadied for a time, but soon again became irregular, in spite of "absolute rest." On Oct. 24th an intramuscular injection of salvarsan, 0·4 gramme, in the form of "joha" was given, but seemingly without much effect, the temperature continuing to rise to about 100° at night. Accordingly, on Nov. 13th a third intravenous injection of neosalvarsan (0·9 gramme) was given, although the Wassermann reaction had proved negative a week earlier. This injection was followed by a feeling of slight nausea and some headache, but the temperature shortly fell to 99°

and did not rise again above that height (see Chart). On Nov. 18th examination showed that the physical signs in the chest had not materially changed as compared with those observed on admission. Nov. 22nd: The cough was better, and the sputum less in amount. The patient felt "very much better in himself." Dec. 5th: The patient was allowed up for two hours. The temperature was still steady, but the cough was very troublesome. 19th: The patient was allowed up for four hours, on the 25th for six hours, and on the 30th for eight hours. On Jan. 1st, 1914, the patient was allowed up all day. The temperature was normal and the cough slight. No other symptoms were complained of. Pulse, 80; respiration, 20. The patient had gained 9½ lb. since August 25th. The physical signs in the chest were now much drier. The sputum, which during the first week in November, 1913 (when first charted), averaged 5 oz. a day, now only amounted to 2 oz. The patient's voice was better but still hoarse, and some papillomata were still visible in the interarytenoid space, but smaller than they had been. On Jan. 5th the patient left the hospital to take up work as a park-keeper.

In this case the first and second intravenous injections of neosalvarsan lowered the temperature and brought it for a short time to normal, but it soon rose again, and it was not until the third injection that final defervescence was effected. As the Wassermann reaction was now negative, the fever at this later period at any rate can hardly be attributed to the syphilitic infection.

CASE 2.—The patient, a male, aged 55 years, was admitted into Brompton Hospital on Oct. 15th, 1913, complaining of a cough of seven months' duration, considerable loss of weight, some night-sweating, and shortness of breath on the least exertion. The temperature was 100·2° F, rising to 101·6°; pulse, 80; and respirations, 20.

On examination the left lung was found to be infiltrated from apex to base, with signs of marked excavation in the upper lobe. The apex of the right lung and the apex of the right lower lobe were also infiltrated. Tubercle bacilli were present in the sputum. There was no history or evidence of syphilis.

The patient was placed upon absolute rest, but it appeared to have no effect, the temperature rising nightly to between 101° and 102° (see Chart). Oct. 30th: 0·9 gramme neosalvarsan was injected intravenously, this being followed by a feeling of general malaise but no other untoward symptom. The temperature remained raised for three days, but on Nov. 2nd it commenced to fall (see Chart). The patient now felt much better and stated that he felt "as if new blood had been put into him." The cough, which had formerly been exceedingly troublesome, was now greatly relieved. On auscultation the signs in the lungs were found to be somewhat drier.

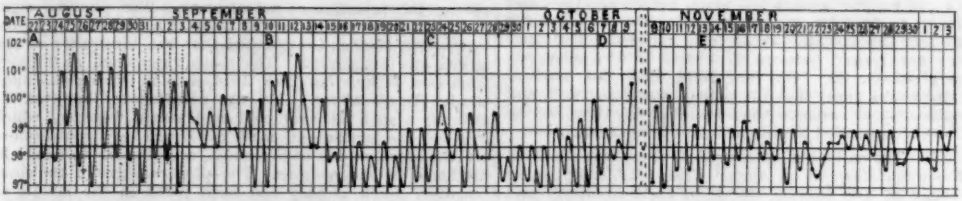
On Nov. 13th, as the temperature, though lower, still touched 100° each night, a second injection of neosalvarsan (0·9 gramme) was given. The patient vomited two hours after the injection and the temperature rose to 100·2°. The following day he again vomited twice, but the temperature fell to 99° and did not rise again (see Chart). On the 17th the patient felt much better. 22nd: Temperature normal. The patient is being gradually taken off absolute rest. Dec. 6th: Up two hours. 8th: Up four hours. Cough and sputum less. Gaining weight. Signs in chest a little drier. 11th: Temperature rose to 100·5°, due to an attack of indigestion. 18th: Up six hours. 22nd: Up eight hours. 25th: Spent a very strenuous Christmas with no bad results. 30th: Up all day. On Jan. 9th, 1914, the patient left the hospital to go to a convalescent home. He had improved greatly in appearance as compared with his condition on admission, and felt much stronger. The cough was much diminished, and the sputum brought up during the past week amounted to 3½ oz. daily, as compared with 8 oz. at the commencement of November last. Tubercle bacilli could not now be found, even by the antiformin method. The physical signs in the chest had not altered much during his stay in the hospital, but were probably somewhat drier. He had gained 10½ lb. since admission.

CASE 3.—The patient, a male, aged 42 years, was admitted into Brompton Hospital on Sept. 24th, 1913, suffering from cough of nine months' duration and pain on the left side of the chest. His temperature was remittent, never reaching the normal, and ranging to 101·8° F.; pulse, 100; and respirations, 24.

On examination the patient was found to be suffering from advanced phthisis, with extensive excavation in both upper lobes, also of the middle lobe, and of the upper third of both lower lobes. The remainder of both lower lobes showed evidence of infiltration. Tubercle bacilli were present in the sputum. There was no history or sign of syphilis.

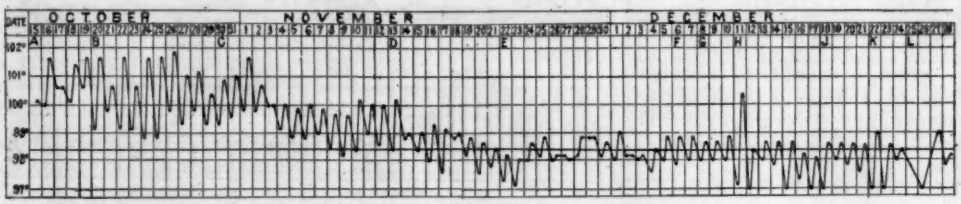
The patient was placed upon absolute rest but apparently without any effect, the temperature still swinging to 101°

FIG. 1.



Temperature chart of Case 1. A, Patient admitted on August 18th; B, first injection of neosalvarsan, 0·9 grm.; C, second injection of neosalvarsan, 0·9 grm.; D, patient placed upon absolute rest; E, third injection of neosalvarsan, 0·9 grm.

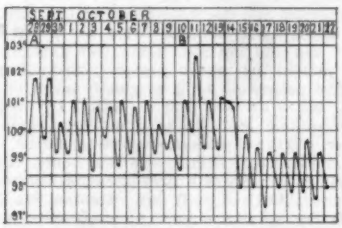
FIG. 2.



Temperature chart of Case 2. A, On admission; B, patient placed upon absolute rest; C, first injection of neosalvarsan, 0·9 grm.; D, second injection of neosalvarsan, 0·9 grm.; E, gradually taken off absolute rest; F, up for two hours; G, up for four hours; H, attack of indigestion and vomiting; J, up for six hours; K, up for eight hours; L, up all day.

nightly, and not reaching normal in the morning (see Chart). Oct. 10th: 0·9 gramme neosalvarsan was injected intravenously. An hour later the patient had a rigor and vomited twice. 11th: The temperature rose to 102·6°. The patient vomited once. The temperature remained raised at its former level until Oct. 15th, on which day it came down, touching normal for the first time since

FIG. 3.



Temperature chart of Case 3. A, Patient placed upon absolute rest; B, injection of neosalvarsan, 0·9 grm.

admission, and afterwards did not rise above 99·5° (see Chart). 19th: The patient felt much better, and the chest was found to be drier on auscultation. On the 22nd the patient left the hospital at his own request. The temperature now ranged between 97·4° and 99·5°; pulse, 80; and respirations, 20. On Jan. 18th, 1914, his medical attendant wrote to say that the patient was doing well, and was quite able to come to the hospital at any time, but he could not be persuaded to present himself for examination.

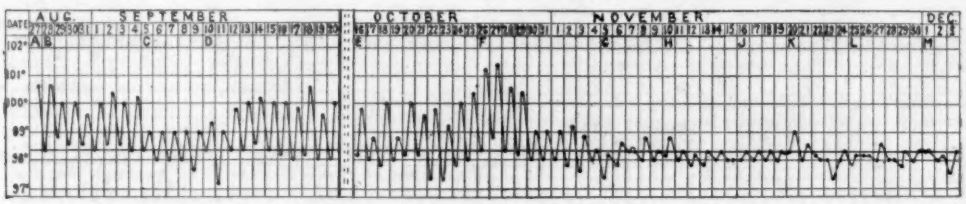
CASE 4.—The patient, a male, aged 22 years, was admitted into Brompton Hospital on August 27th, 1913, complaining of a cough of five months' duration, night-sweating, and considerable shortness of breath on exertion. The temperature was 100·6° F.; pulse, 88; and respirations, 24.

On examining the chest the patient was found to have extensive tuberculous disease affecting both lungs. The note was impaired over the right apex extending down to the second rib in front and to the midscapular region behind. Crepitations were heard over the impaired region in front. Over the left lung the note was impaired to the third rib in front, with signs of excavation and many moist sounds. Behind the note was impaired from above down to the level of the angle of the scapula, with signs of excavation in the supraspinous fossa, and also at the apex of the lower lobe. The patient's voice was husky, and there was considerable (tuberculous) infiltration over both arytenoid regions and in the aryepiglottic folds. Tubercle bacilli were present in the sputum. There was no history of syphilis or any sign pointing to this disease.

The patient was placed upon "absolute rest," but the temperature did not improve, rising at night to between 100° and 101°. On Sept. 5th cryogenin, in 10 grain doses, three times a day, was prescribed. This was continued until the 10th, and during its administration the temperature fell to normal (see Chart), but on its discontinuance the temperature rose again to its former height. From Sept. 21st to Oct. 16th fever was still present, the evening temperature varying between 99° and 101°, and from Oct. 16th onwards for the next ten days it still remained raised (see Chart). The physical signs in the chest had by now extended and moist sounds were heard over the whole of the left front and down to the base behind, the whole of the left lung being thus involved. Crepitations were also heard at the right apex posteriorly. The infiltration of the larynx, which had previously increased, was now somewhat less marked. On Oct. 26th neosalvarsan (0·9 gramme) was injected intravenously. This was followed by a feeling of general malaise for 36 hours, but there was no shivering or vomiting. For three days the temperature remained raised, but on the 30th it fell to 99° and soon to normal, after which it did not rise again (see Chart). Nov. 4th: The patient felt much better; the cough was less troublesome, and the sputum diminished in amount. No crepitations were heard at the right apex, but the physical signs were otherwise unchanged. Voice better; infiltration in larynx slightly diminished. 5th: Taken off absolute rest. 10th: Up two hours. 16th: Up four hours. A few moist sounds heard at the right apex. 20th: Up six hours. 25th: Up eight hours. Dec. 1st: Up all day. Pulse, 72; respirations, 20; temperature, 98·4°.

On Dec. 17th the patient was transferred to the Brompton Hospital Sanatorium at Frimley. His temperature was now normal, and he was up and about all day. He had gained 14½ lb. during his stay in the hospital. His cough did not trouble him, but he still brought up much phlegm, the amount for the past week being, however, 17½ oz. per diem, as compared with 22½ oz. for the week preceding the injection of neosalvarsan. The physical signs in the chest showed no further alteration, but shortly before leaving Dr. Dundas Grant noted that the infiltration of the larynx was less marked. The patient remained at Frimley from Dec. 17th to Jan. 28th, 1914, and on leaving was upon Grade II. of labour. He was unfortunate, however, in striking a spell of very cold and severe weather, which irritated his larynx and made his cough very troublesome. He therefore, at his own request, was allowed to return to his home in the country. The physical signs in the chest remained much as they had been noted in the middle of October, except that moist sounds were not now audible over the right apex posteriorly.

FIG. 4.



Temperature chart of Case 4. A, On admission; B, patient placed upon absolute rest; C, cryogenin, gr. x. ter die; D, cryogenin discontinued; E, patient still on absolute rest; F, injection of neosalvarsan, 0·9 grm.; G, patient taken off absolute rest; H, up for two hours; J, up for four hours; K, up for six hours; L, up for eight hours; M, up all day.

These cases show the marked effect upon the temperature which may sometimes be produced by the intravenous injection of neosalvarsan and the improvement which simultaneously results in the patient's general condition. The effect, as a rule, is not immediate, but shows itself after an interval of two or three days. The temperature then falls possibly to normal, where it may remain (Case 4). In other cases defervescence is not complete, and a second injection is required before it becomes normal (Case 2). In other cases a third injection may be required (Case 1). With the fall in temperature an improvement in the patient's general condition occurs which is sometimes very striking, and with this there is a lessening of the cough and a diminution in the amount of sputum. As regards physical signs these become somewhat drier, but otherwise no very marked alteration is usually observed.

Such striking results, however, as those seen in the above cases must not be expected in every

instance. Of the 16 cases in which I have observed the effect of the drug, in one at least, that of a woman, aged 60, with extensive pulmonary tuberculosis, two injections of neosalvarsan were given seemingly without effect. In another the beneficial effect was only temporary, and after a time pyrexia returned, though milder in degree. In others improvement resulted and the temperature became normal, the fall being a gradual one in some cases, but it has been difficult always to decide how far the result was due to the drug and how far to the rest in bed and favourable surroundings to which phthisical patients may eventually respond even after a considerable period of pyrexia.

The drug, in short, is not a specific, but it would appear to have the power of influencing very favourably certain cases of active and febrile tuberculous disease of the lungs which have resisted other treatment, and it merits, therefore, a more extended trial. If administered with care and with due precautions it may be given apparently without risk even in very advanced and grave forms of the disease.

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TWO CASES OF SPRUE TREATED BY MOUTH STREPTOCOCCAL VACCINES AND EMETINE HYDROCHLORIDE HYPODERMICALLY.

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IN the chapter on sprue in my work on dysenteries a series of 47 cases treated in the European General Hospital is analysed, and the conclusion arrived at that in only a very small proportion was even temporary benefit derived from prolonged treatment in a tropical climate, while in the great majority no improvement resulted from our present methods. I also mentioned that I had seen some good from small doses of ipecacuanha, and suggested a trial of emetine hydrochloride hypodermically. During the last few months I have had some opportunities of trying this treatment. In addition I administered a vaccine prepared from streptococci derived from the mouth ulcers, where they were found to be present in nearly pure culture. In the following two severe and chronic cases the results of this method of treatment have been so strikingly favourable as to appear to be worthy of record, as it may be a considerable time before I get any further opportunity of trying the same remedies.

CASE 1.—A Mahomedan woman, aged about 40, was sent over from Bombay to be under my treatment. The history of the case showed that in October, 1905, she had commenced passing a number of large light-coloured loose, frothy stools, said to be as many as 20 daily, and accompanied by obstinate dyspepsia. She was then a stout woman weighing 14 st., but her weight soon became reduced to 10 st. During the following year the diarrhœa was less, with only about five stools daily, but she was never free from it. In November, 1908, there was a recrudescence, with numerous loose stools, nausea, and flatulence. She stated that this condition had continued ever since, and that for the nine years before I saw her she had never been free from diarrhœa, although she had been treated by a number of medical men, both European and Indian, in Bombay and Calcutta. She lived in Bombay from June, 1911, to December, 1913, but was worse there than when in Calcutta. At that time she used occasionally to become giddy and even faint, having several times been found collapsed on the floor at night on her way back from the bathroom. During the 18 months she was in Bombay her gums were ulcerated and they bled freely, and she was told by a dentist that this condition could not be cured until all her teeth had been removed, which she declined to allow.

Present condition.—When I first saw the patient on Dec. 6th, 1913, she was passing about 12 large, loose, pale, sprue-like stools daily, accompanied by flatulent dyspepsia. I failed to find any amœbæ in the stools, but determined to try emetine injections for the reasons given in the opening paragraph of this paper. There was marked pyorrhœa alveolaris, so I made cultures, and obtained large numbers of streptococci, from which I made a vaccine.

Progress.—Half-grain doses of emetine hydrochloride were injected hypodermically every other day, and were soon increased to one-grain doses. After two or three injections, and before the vaccine had been commenced, the stools became much less frequent and of better consistency and colour. After eight injections the evacuations had become healthy and only one or two a day. In the meantime the streptococcal vaccine was begun, [50,000,000 soon increased to 100,000,000, being injected once a week. The discharge of pus from the gums rapidly decreased, and in a few weeks completely disappeared, and has remained absent for the last four months. No teeth were removed. Some superficial soreness and redness of the tongue subsequently appeared, from which a streptococcus was also cultivated. A vaccine made from this removed the unhealthy condition of the tongue within a few days.

I saw the patient on May 3rd last, and, except for slight redness of the tip of the tongue, she was quite well almost five months since the diarrhœa ceased, after having been continuously present for nine years before the new treatment was commenced. She has no dyspeptic symptoms, and can digest all ordinary food. She is now free from the giddiness, faintness, and neuralgia which she used to suffer from, and her general health has greatly improved. She has not been weighed regularly, but has put on some flesh and has gained much in strength. The only trouble with her bowels is a slight tendency to constipation, necessitating an occasional dose of castor oil.

CASE 2.—A woman, aged about 40, came under my care, in consultation with Dr. C. H. Elmes, in December, 1913, in an advanced stage of sprue of four years' duration. The previous history is a long one, but the principal points are given in the following chronological account:—1909: August to November, very severe diarrhœa on and off in Calcutta. Went to England and into a nursing home, and was later sent on a long sea voyage to Hong-Kong. 1910: January, in Peak Hospital, Hong-Kong, where the disease was diagnosed as sprue. Returned to Calcutta at the end of January and got much worse. Rapidly lost weight from 13½ st. to 10½ st. Returned to Hong-Kong in April, and remained in hospital there for six months, at the end of which she had lost another stone in weight during a severe relapse. Then went to England, and lost her diarrhœa on the voyage. 1911: Returned to Calcutta and again became affected with sprue. April to August, voyage to Japan and back. Returned stronger and heavier and free from sprue. Relapsed a week after return to Calcutta, but improved much during five weeks in the General Hospital. 1912: March to August, trip to Japan. No diarrhœa, and put on nearly a stone in weight. Returned to Calcutta in September and had another very severe relapse, lasting to February, 1913. 1913: In February left again for Japan. The diarrhœa at first stopped on the voyage, but later very severe relapse, with 10 to 14 stools daily, following a chill. The mouth was especially bad in this attack, and remained most painful for 10 months. She now went to Berlin for treatment and improved considerably. In August she went to London and again relapsed. From August to November she was under the care of specialists on tropical diseases in nursing homes and at her house, but got steadily worse, her weight now falling to 7 st. 5 lb., although a tall, heavily built woman whose former weight was 13⅛ st. In November left for India. The diarrhœa continued to be severe on the voyage, while she also suffered from chyluria, after the onset of which the diarrhœa became somewhat less. The feet had now become swollen, and her general condition was very unfavourable.

Present condition.—I first saw the patient on Dec. 17th,

1913. She was then in a very emaciated and weak condition, and passing several large, pale, typical sprue stools daily. Emetine hydrochloride was given in half-grain doses two or three times a week, and later increased to one-grain doses. She slowly improved during the next three weeks, but on Jan. 14th last she had a severe relapse with frequent copious stools. Her mouth had now become very painful, with numerous small shallow ulcers on the tongue and buccal mucous membrane, while the temperature rose every afternoon for about a week. She was very prostrated and too weak to stand or even sit up, while the pulse was fast and irregular. I now made cultures from the mouth ulcers, and obtained in some of the tubes a pure growth of a streptococcus. I therefore made a vaccine from it and commenced with 50,000,000, increased later to 100,000,000, once a week. After the second dose of the vaccine both the mouth and the bowel symptoms rapidly improved. Towards the end of January she was put on a milk diet by another physician during my temporary absence from Calcutta, beginning with 6 oz. and gradually increasing it to 120 oz. daily by the end of three weeks. The emetine injections were continued twice a week. The diarrhœa now stopped, the mouth lesions healed, the vaccine being continued once a week. Up to this time the patient was being carried from her bed to a couch for a few hours daily. She now rapidly improved, and on March 4th was able to be moved to Bangalore, a three days' railway journey, for the hot weather.

On March 20th the patient reported that she had had no sign of diarrhœa since Feb. 5th. The mouth was quite well. She had gained just over a stone in weight in four weeks, before which she had become reduced to 6 st. 9 lb., or to under half her original weight. She was now able to walk a quarter of a mile and do everything for herself. She was continuing the vaccine once every eight days and the emetine injections once in ten days. On April 9th she reported continued improvement. She could now digest eggs, semolina, and toast-and-butter. I last heard from her on April 28th, when she remained free from all signs of sprue and continued to gain weight steadily.

Although it is too early to draw final conclusions from the above two cases, yet, in view of the very unsatisfactory results of other forms of treatment in Calcutta (including that by yellow santonin), the rapid and great improvement in two successive severe and very chronic cases is not a little remarkable. In the first case the improvement certainly commenced as soon as the emetine injections were begun, and before the mouth streptococcal vaccine was administered. Nevertheless, I am inclined to attribute much of the ultimate success to the vaccine. In the second case a relapse occurred after improvement had followed the emetine injections, and it was not until the mouth condition had been improved by two doses of the streptococcal vaccine that rapid and continued improvement of the stools set in. I think the milk diet was also of undoubted service in this case, although it was not found to be necessary with the first patient. I do not look on emetine as in any way a specific in sprue, such as it undoubtedly is in amœbic dysentery and hepatitis, but I am inclined to regard it of some value in certain cases of the disease. We should bear in mind that "sprue" is a purely clinical term, and there may be more than one causative agent, just as in the case of "dysentery."

The success attending the use of a vaccine made from the streptococci which were found present in practically pure culture in the mouth lesions is very significant, and opens up the interesting and suggestive question as to whether this class of organism may not be the cause of the disease, at least in some cases. The rapidity with which the disappearance of mouth ulcers under the influence of the vaccine was in the second case followed by cessation of the diarrhœa certainly suggests a causal relationship between the organism and the disease, and affords some hope of the new treatment proving to be of a specific nature and thus an important advance in dealing with this intractable and distressing disease. Even in cases where no mouth lesions are present there may still be a streptococcal infection of the digestive tract, and possibly cultures may be obtainable from the stools which might prove of service in the form of a vaccine. At any rate, it appears to be advisable to put these two cases on record without delay, if only to stimulate research on the lines I have indicated.

Calcutta.

CONGENITAL DEFICIENCY OF THE RADIUS AND A HOMOLOGOUS CONDITION IN THE LEG.

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CASES illustrative of these conditions have lately been brought to our notice, and their occurrence is sufficiently rare to warrant their publication.

Club-hand.

Case history.—The patient was a child aged 2 months. An interesting feature was noticed during the birth which may throw some light on the etiology of the condition. At birth the hand of the affected side was tucked into the axilla, the upper arm being close to the side and the elbow- and wrist-joints flexed. In this position the hand was deviated towards the radial side. The child threve well after birth. The errors in development and position of the hand and forearm were at once noticed; no other congenital error was discovered. With the progressive growth of the child the deformity of the hand and arm became more manifest.

Etiology.—Several theories have been mooted to explain the occurrence of the abnormality. Their discussion must be premised by an outline of the development of the extremities.

Development.—The extremities make their appearance as little rounded buds springing from the lateral aspect of the trunk at the junction of its dorsal and ventral aspects. The buds are visible at the end of the third or the beginning of the fourth week. As they grow out they become flattened, so as to present surfaces which lie parellel to the vertical antero-posterior plane of the trunk. The flattened bud at the end of the fifth week presents a constriction which subdivides the whole into a hand plate and an arm plate. At the circumference of the hand plate there is a thickened border—the digital pad. From this pad, by an irregular growth, the thumb and the fingers are formed. At first the upper and lower extremities are placed symmetrically, their future extensor aspect lying dorsal, and the flexor aspect ventral. At the commencement of the third month both extremities undergo a rotation in opposite directions, so that the elbow is brought to the back, while the knee is brought to the front. It therefore follows that the tibia corresponds to the radius, while the ulna corresponds to the fibula.

Gegenbauer's theory.[1]—Gegenbauer believes that

[1] Transactions of the American Orthopedic Association, vol. x., p. 174, 1897.

the development of the arm is arranged on the plan of the primitive fin, as a stem and four independent rays. The first ray is composed of the radio-scaphoid, the trapezium, the first metacarpal bone, and two phalanges. The bony defect is the result of a suppression in order from above downwards of one or more rays.

The mechanical theory.[2]—This theory ascribes the condition to pressure of the amnion and deficiency of fluid at the time of development of the arms. Now, the radius is the homologue of the tibia, and if one assumes that Gegenbauer's theory is correct, one would naturally expect that a deficient tibia would be more commonly met with than a deficient fibula. In actual fact the reverse is the case, and the fibula is more often deficient than the tibia. This apparent incompatibility has given popularity to the mechanical theory.

Authors' theory.—One of us (H. H. R.) has lately delivered two children suffering from this deformity, and in both instances it was noticed that the hand was firmly fixed in the axilla, with the upper arm close to the side, and the elbow flexed. The position of the hand in the axilla was such that it was deviated strongly towards the radial side. With the hand so fixed it is easy to appreciate the influence which the posture must have on the development of the deformity.

Pathology.—The radius was not completely absent; it was represented by a thin, rod-like

FIG. 1.

Congenital deficiency of left radius.

FIG. 2.

Radiograph of the bones, showing a congenital deficiency of the radius and absence of the metacarpal bone of the thumb.

portion of bone, about 1¼ inch long, occupying a position opposite the middle third of the ulna. The ulna was slightly bent, convex inwards. Its articulation with the humerus appeared to be healthy. There were four metacarpal bones, the metacarpal bone of the thumb being absent (see Figs. 1 and 2). The phalanges of the fingers and of the thumb were present. No ossification had appeared in any of the bones of the carpus nor in any of the epiphyses of the part. From an examination of the soft parts one concluded that the radial extensors and supinators were wanting, while the muscles of the thumb were either absent or deficient. There were no other congenital defects apparent.

Treatment.—Numerous manœuvres have been adopted with a view to correcting this exceedingly debilitating condition. The resistant structures on the inner side of the arm have been divided, and the correction maintained by means of splints. The resistant structures may include the ulna.

Sayre and Park[3] excise one or more of the carpal bones and insert the end of the ulna into the cavity which is left. Bardenheuer recommends a splitting of the ulna into two halves, a radial and an ulnar. The carpal bones are wedged between the distal ends of the ulna, and fixed in such a position; ankylosis inevitably follows. McCurdy[4] divides the ulna at such a level that the free end of the upper fragment can be brought to the semilunar bone. In exposing the bone the soft parts are divided obliquely, the purpose being to allow the soft parts to be slid one on the other and so to be lengthened rather than divided. The semilunar bone and the end of the ulna are drilled and coapted with sutures. Antonelli supplies a new radius by splitting the thickened ulna almost from end to end. Muscles are interposed between the separated halves of the bone, and the lower end of the new radius is sutured to the end of the ulna and to the carpus with silver wire. Shortened structures are lengthened, and division is carefully avoided.

We propose an operation which we have adopted with complete success in the corresponding condition of the foot—congenital deficiency of the tibia. The procedure is fully described later; it consists in resection of a portion of the fibula, sufficient to overcome the deformity, and the implantation of a new radius, by introducing the fibula to fill up the deficiency.

Congenital Deficiency of the Tibia.

Case history.—The patient was a female infant who came under our care when 6 weeks old. There was found to be an obvious congenital error in the development of the bones of the right leg; the foot and the lower fourth of the leg were set inwards at right angles to the true axis of the limb. Palpation revealed the fact that the lower end of the tibia was imperfectly developed and the growing fibula had displaced the foot inwards. There were no other congenital errors.

Etiology.—It has been pointed out that the tibia is the homologue of the radius, and therefore the developmental theory applies in this instance. The position of the foot and limb at once suggested that improper pressure was the cause of the deformity. Unfortunately, no details could be obtained regarding the birth history, but on the outer aspect of the foot there was, in the form of scars, distinct evidence that pressure on the outer aspect of the foot had been exerted at some period of intra-uterine life. The crossed position of the limbs in utero renders the pressure theory a very likely one.

Pathology.—There was a distinct deficiency in the lower third of the tibia. About the centre the shaft terminated in a cup-like covering of fibro-cartilage. The lower epiphysis was present, and

[2] Lo cit.

[3] Ibid., vol. xiv., p. 154, 1901.

[4] Annals of Surgery, 1896, p. 44.

on the epiphyseal cartilage there was a remnant of the diaphysis in the shape of a small pyramidal mass. This mass was largely cartilaginous, and from its apex a band of fibrous tissue extended upwards to the cap-like covering of the end of the shaft. The appearances of the deficient tibia were suggestive of pressure having been the etiological factor. The fibula was bent inwards at the junction of its lower and middle thirds. At the situation of the bend the bone was almost completely cartilaginous. As far as could be ascertained the ankle-joint, tarsus, and metatarsus were healthy. The soft structures on the inner side of the foot were shortened, none appeared to be absent.

Treatment.—Possibilities of treatment were discussed, such as have been mentioned in speaking of the arm. It was decided to attempt a transplantation of the fibula from the opposite leg, and the operation was followed by complete success. The operation was done when the child was six months old. From the limb of the opposite side a portion of fibula was removed from the centre of the shaft of the bone. The length removed was sufficient to fill up the gap necessarily left in the deformed tibia. A subperiosteal excision was performed and the bone was kept in warm sterile saline until required. An incision was made over the deformed fibula to expose the angle of the bend. Sufficient bone was removed to permit of straightening of the foot, and the cut edges were united with sutures of silver wire. A second incision was made along the line of the tibia—it thoroughly exposed the deficiency in the bone. The shaft was divided above and below, so as to expose healthy bone tissue, and all intervening fibrous and cartilaginous elements were removed. Into the gap so formed the fibula, which had been removed from the opposite limb, was implanted. Its length was slightly greater than the gap, so that its insertion tended to produce some over-correction of the deformity. The implanted fibula was fastened at each extremity by sutures of silver wire, above to the remains of the diaphysis, below to the epiphysis. The wounds healed by first intention, and when the stitches had been removed, the limb was encased in plaster-of-Paris. The plaster case was changed at intervals of three months, and remained in position for a total period of six months. It is now nine months since the operation was performed. The limb is perfectly straight, and the child is walking. The precaution is being taken of having the outer sole of the boot raised, in order to maintain, when walking, a correction of the deformity.

THE UNIVERSITY OF BRISTOL AND EXPERIMENTS ON ANIMALS.—At its last meeting the council of the University considered a recommendation received from the Senate to the effect that the restriction which has hitherto confined animal experiments to diagnostic inoculations in suspected plague should be now removed. It was reported that those restrictions did not exist in the other modern universities, and a resolution was passed enacting the following standing order in the stead of the old one: "No experiments on living animals other than inoculations and feeding experiments shall be conducted in the University except under anæsthesia, and any animal operated on for the purpose of demonstration shall be killed while still completely anæsthetised." At the annual meeting of the local branch of the Research Defence Society this decision was received with satisfaction, and it was also reported that the number of members and associates had grown from 88 to 103 in the past 12 months. The reading of the annual report was followed by an interesting address by Mr. E. W. Hey Groves on Sentiment and Reason in Relation to Medical Research.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF APPENDICITIS SIMULATING INTUSSUSCEPTION.

BY ROBERT E. HALAHAN, M.D. DUB.,
SURGEON, BRITISH HOSPITAL, BUENOS AIRES.

ON a Wednesday evening I was called to see a little girl, 5 years of age. She had just had a rigor, accompanied by headache, vomiting, diarrhœa, and a good deal of pain in the epigastrium. Her temperature was only 37·2°. The abdomen was quite soft, nothing could be felt, and there was no pain, tenderness, or resistance over the appendicular region. She was ordered some calomel, and the next day felt very much better—no vomiting, no headache or temperature, and, except for a few colicky pains occasionally in the abdomen, she seemed quite well.

On Friday the pains were rather more severe, situated in the upper abdomen; she had vomited once and her bowels had not moved. The next day the pains had still increased, making the child cry out from time to time. The abdomen continued soft, and the most painstaking search failed to reveal even a point of resistance. The bowels did not move.

On Sunday morning she felt very much better, the pains having almost gone; but in the evening I was sent for in a great hurry, as the child was vomiting continuously, and after an enema she passed some blood and mucus. Her temperature was normal, but she had very severe attacks of pain in the abdomen, causing her to cry aloud. The pulse was 120 per minute, the tongue dirty and very dry. Under the lower border of the liver a transversely placed tumour could be distinctly felt.

In view of the character of the pain, the constipation, the presence of a distinct and sausage-shaped tumour, the passage of blood and mucus, the absence of fever, and continuous vomiting, there seemed to be no doubt as to the nature of the complaint. I diagnosed an intussusception and advised immediate operation. On opening the abdomen, which was done through the right rectus, an enormous appendix, 14 centimetres long and twice the normal diameter, was found lying just below the lower border of the liver. There was no intussusception, and after excision of the appendix the child made an uninterrupted recovery.

Buenos Aires.

NOTE ON A CASE OF DEATH FOLLOWING THE STING OF A SCORPION.

BY R. McC. LINNELL, L.R.C.P., D.P.H. CAMB., D.T.M. & H. CAMB.,
MEDICAL OFFICER TO THE KUALA LUMPUR RUBBER COMPANY, FEDERATED MALAY STATES.

THE following case may prove of interest to readers of THE LANCET in view of the fact that it is unusual for a scorpion sting to prove speedily fatal.

The patient, a coolie aged 20, was admitted to the Kent Estate Central Hospital, Kuala Lumpur, on Jan. 25th, 1914. He had been working regularly until two days previously, when he was stung by a

scorpion in the left heel. For the cure of the sting the other coolies had made him eat the head of the scorpion. On admission to hospital the patient complained of "things creeping all over the body." The temperature was 102·8° F. No malarial parasites were found. A blood count gave the following percentages: Polymorphonuclears, 75·8; mononuclears, 0·81; lymphocytes, 9·68; transitionals, 5·64; mast cells, 0·81; and eosinophiles, 7·26. The heart and lungs were clear and the urine was normal, but the fæces contained ankylostoma ova. On the fourth day after receiving the sting the patient had paralysis of the legs, and on the fifth day motor paralysis to the umbilicus, sensation being unaltered. On the sixth day there was retention of urine, and on the ninth day sugar was present in the urine (between the third and ninth days the urine was not examined). On the thirteenth day the patient became comatose, but could be roused to eat and drink. The temperature on the following day fell below 95°, and the patient was still comatose. Death intervened on the fifteenth day.

The patient had seemed to be able to feel as long as he was conscious. The sugar had persisted in the urine from the ninth day to the end. The patient's relatives had very strong objections to a post-mortem examination being held, but I finally persuaded them to allow me to remove a piece of the spinal cord. Dr. W. Fletcher, pathologist to the Institute of Medical Research, Kuala Lumpur, kindly examined this and reported as follows:—

A portion of the lumbar cord was received for examination. It had been hardened in alcohol, so that no pathological changes could be recognised in the myelin sheaths. Paraffin sections stained with Haidenhain showed that the cord was affected with acute disseminated myelitis. In one part there was an acute destruction of the anterior horn and an infiltration of round cells. In another portion Clarke's column had been destroyed. The perivascular sheaths were crowded with small round cells and the meninges were congested. Some of the cells of the anterior horn were swollen and the nuclei eccentric; chromatolysis had occurred in many of them.

Although scorpion stings are fairly common in the Federated Malay States, yet deaths following them directly must be, as I have already intimated, extremely rare, the above case being the only one which I can trace. The scorpion was a small brown specimen, which the natives declare to be the most vicious and deadly of all. What appears to be an unusual feature in the case was, I may add, the appearance of sugar in the urine.

Kuala Lumpur.

SCHOOL MEDICAL SERVICE IN BRISTOL.—A local medical correspondent writes as follows:—At a recent meeting the Bristol city council adopted the recommendations of their education committee in relation to the school medical service. Briefly, this establishes a rather larger and more extensive service than has sufficed hitherto in order that the new regulations of the Board of Education, insisting on examination of children at intermediate as well as at entering and leaving ages, may be carried out. The present staff consists of a part-time medical officer with several assistant part-time medical officers and two school nurses. The part-time officer is to give place to a whole-time officer, the assistants are to be retained, and there are to be four school nurses instead of two. Moreover, several clinics are to be established in which instruction as to the treatment of minor ailments will be given to parents. The salary of the whole-time officer is to be £500. It is not known as yet how these proposals will be received by the existing staff, but it is certain that the continuance of the part-time assistant officers is of benefit to the city, since it makes for sanity and breadth of outlook to have the inspection done, at least in part, by men who are in general practice.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEETING OF FELLOWS.

Demonstration on the Cultivation of Human and Other Tissues in Vitro.

A MEETING of Fellows was held on May 11th.

Dr. DAVID THOMSON gave a microscopic and lantern demonstration on the Cultivation of Human and Other Tissues in Vitro. The research was carried out in conjunction with Dr. JOHN GORDON THOMSON (Beit Memorial Research Fellow) in the Marcus Beck Laboratory in that institution under the directorship of Sir Ronald Ross, and as the work represented the first-fruits of this new laboratory the author made a brief reference to the memory of Marcus Beck, and expressed his thanks to Sir Francis Champneys, the President, the Council, and Mr. J. Y. W. MacAlister, secretary of the society, for the facilities which they had given him. The tissues were cultivated according to the technique employed by Carrel at the Rockefeller Institute. The tissue of embryonic chicks obtained from hatching eggs was largely employed, and also human tissue obtained from operations performed by Sir John Bland-Sutton at the Middlesex Hospital. It was found that when a small portion of embryonic chick tissue was implanted in a medium composed of the blood plasma of a fowl one part and extract of chick embryo one part the new growth radiated out from the original tissue on every side, without any tendency to produce a definite shape or structure. The original cells were for the most part round cells, but the new cells produced in this medium were as a rule elongated and tended to branch, so that the new tissue differed markedly from the appearance of the original material. In spite of this common characteristic it was noticed, however, that the types of growth produced from various species of tissue differed from each other. Connective tissue produced a radiating outgrowth of long, thin, branching cells, whereas the new growth from epithelial tissue was more of the nature of a solid extension of flat cells which did not elongate or branch so much as in the case of connective tissue. Brain tissue produced long axis cylinders, and the tissue of spleen and bone marrow produced large numbers of amœboid leucocytes of various kinds and also red blood cells. The tendency to elongation and branching of the cells of the new growth appears to be due to the solid or jelly-like consistence of the medium. In a liquid medium composed of white of egg or a mixture of serum and plasma the cells of the new growth remain round like those of the original tissue. Growth *en masse* of definite shape or somatic growth *in vitro* was also obtained by placing a very young chick embryo (24 hours old) in the plasma medium. It was found that this embryo increased in size, while retaining its definite shape. If the toe of a young embryonic chick was placed in this medium it increased markedly in size, while it also retained its original shape. At the part, however, where the toe had been cut off (injured) the usual radiating uncontrolled growth was produced, but no such uncontrolled growth occurred from the uninjured surface of the tissue mass. With regard to the cultivation of human normal and tumour tissue, it was found that successful growth could be obtained in a medium composed of blood plasma of a fowl one part and extract of chick embryo one part. This was an interesting fact, since it showed that human tissue could grow in material obtained entirely from a bird. Small portions of two human tumours were successfully grown in this medium. (*a*) Intracystic papilloma of the ovary (not truly malignant). This was a very soft, friable tumour composed almost entirely of epithelial cells, and the new growth consisted of buds of pure epithelium. (*b*) Carcinomatous lymphatic gland. This tumour was somewhat tough, due to the presence of a considerable amount of connective tissue stroma, and the new growth which occurred comprised both these tissues. The connective tissue cells grew first after 44 hours' incubation and buds of epithelial cancer cells appeared later, after about three days' incubation, the

growth continued in the same medium for 14 days, after which it ceased to show a further increase. The new growing tumour cells were in all cases much larger than the cells of the original tissue from which they sprang. They also contained numerous highly refractile granules, and were markedly amœboid and tended to throw out long protoplasmic processes into the medium. The growing tissue tended to liquefy this medium, more especially the solid outgrowth of epithelial cells. Human connective tissue would appear to grow more rapidly than specialised epithelial tissue. Human and other mammalian tissue grew much more slowly *in vitro* than embryonic chick tissue. The former showed little or no growth till about the end of the third day, whereas the latter showed a copious growth after 24 hours. The tissues in all cases were incubated at 37·5° C. The demonstration was followed by a micro-kinematographic film showing growth *in vitro* taking place from the cardiac and splenic tissue of an embryonic chick. The film was shown by Dr. H. D. MCCULLOCH, who had kindly obtained it on loan from Dr. Comandon, Pathe Frères, Paris.

SECTION OF MEDICINE.

On the Murmurs in Dilated Heart and their Explanation.—Leukæmia and X Rays.

A MEETING of this section was held on May 26th, Dr. SAMUEL WEST, the President, being in the chair.

The PRESIDENT read a paper on the Murmurs in Dilated Heart and their Explanation. He said that dilatation of the heart was a common condition and easily recognised. Murmurs were often associated with it, and as these murmurs came and went with it they might properly be called dilatation murmurs. As to how they were produced opinions differed. Murmurs were audible eddies; a so-called jet produced violent eddies. 1. In the vessel the conditions which led to eddies and murmurs fell into two groups according as the blood was passing (*A*) into or out of a dilatation of the vessel; or (*B*) through a constriction in it. Their force varied with the force of the circulation. *A.* (*a*) Mimic aneurysms was the simplest form—i.e., a transient dilatation of the aorta. This was met with in the subclavian and carotid and in the abdomen as "the pulsating aorta," which was often diagnosed as an abdominal aneurysm. (*b*) The true fusiform aneurysm yielded a similar condition, the dilatation being, however, permanent. (*c*) With saccular aneurysms the murmurs varied according to the relation in which the sac stood to the vessel. If it were a pouch at the side, or if the walls of the sac were rigid or its cavity filled with clot, the blood might not enter with sufficient force to give rise to eddies and then no murmur would be present. *B.* A vessel might be constricted (*a*) by pressure from without—by the stethoscope, for instance—or by a tumour; (*b*) by relative constriction, where the vessel passed through a fibrous membrane—e.g. the jugular vein in the supraclavicular fossa; or (*c*) by disease of its walls. 2. Many of these conditions were reproduced in the heart, especially when there was organic disease, but the only class he wished to discuss was that where organic disease was absent and only dilatation present. Dilatation murmurs in the heart might be present at the base or over the ventricle, and might be described as basic or ventricular respectively, and in each case might occur on the right or left side. *A. Basic murmurs* were often described as hæmic or functional, both undesirable terms. 1. At the left base the murmurs were called pulmonary. If produced in the pulmonary artery they might be due to the eddies caused by the blood passing through the normal orifice into a dilated artery above or more probably out of the dilated right ventricle behind, but it was also possible that they were sometimes due to a dilated left auricle pressing on the pulmonary artery from without. 2. At the right base there was a peculiar systolic murmur over the aorta heard under nervous excitement which might be diagnosed as due to aortic disease. It was transient and, he thought, probably due to dilatation similar to the condition above described as mimic aneurysm. B. The ventricular dilatation murmurs were almost always systolic in time, soft and blowing in character, limited to the precordial area, and only rarely propagated into the axilla and behind. They were commonly referred to regurgitation through the auriculo-ventricular orifices. The muscle-bundles wrapped round the auriculo-ventricular rings in figure-of-eight fashion. Their contraction led to narrowing of these orifices. Ludwig and Hasse showed this contraction by experiment, but they went further and said that without this contraction of the orifices the valve in health would not be competent, so that muscular weakness would cause auriculo-ventricular incompetence. It was *a priori* improbable that the heart should have such scanty reserves. The conclusion was opposed to post-mortem observation, where it had been frequently shown that the valves were competent to hold water even when the heart and the auriculo-ventricular rings were much dilated. If these murmurs were regurgitant they should be propagated as the regurgitant murmurs due to organic disease were. If they were not they could not be regurgitant. 1. (*a*) On the left side the murmurs of mitral regurgitation were as a rule propagated to the axilla and behind; the murmurs of dilatation as a rule were not. Some, however, might be when dilatation was extreme, and these might be fairly regarded as due to regurgitation, but the others could not be. If, then, not due to regurgitation, they must be produced by eddies in the dilated ventricle. (*b*) Another instance of murmurs produced in a dilated left ventricle occurred with aortic regurgitation. Then a very characteristic churning or almost continuous murmur was heard at the apex and thereabout. One variety of this had been called Flint's murmur, which, however, did not deserve a special name. (*c*) At the left base murmurs might be heard with organic mitral regurgitation, which might suggest aortic disease, but these were produced in the dilated left auricle. 2. The ventricular murmurs on the right side when due to tricuspid disease were propagated across the sternum to the right and were very characteristic. Those of dilatation were localised and not so propagated. Tricuspid regurgitation was often diagnosed on theoretical grounds even when there was no murmur at all. This could not be justified. These ventricular murmurs associated with dilatation therefore, whether on the right side or the left, were, he maintained, for the reasons given, not due to regurgitation through the auriculo-ventricular rings, but were intraventricular.—Dr. A. F. VOELCKER said that he also had been in the habit of naming these murmurs "dilatation murmurs." He thought there was still much to learn as to their etiology, and contended that there was no evidence that an eddy could produce a murmur. If it did so presumably it was by causing vibration of the cardiac wall. He spoke of the great frequency of apical systolic murmurs in children suffering from any acute illness. They were often conducted to the left, up the sternal margin, and to the pulmonary area, though not usually in children heard with greatest intensity over the last area. He had always considered that they were best explained by dilatation of a ventricle, but of the right, not of the left.—Dr. ALEXANDER MORISON said that one occasionally met with cases in which, in association with conditions of debility, apical murmurs were heard which were rough and propagated round the left side of the thorax to the back. The mechanism in such could scarcely be otherwise than a forcible regurgitation through the mitral orifice. It depended upon acute dilatation, which might pass off or terminate fatally. He thought the conductivity of murmurs depended largely upon their tone and intensity. He regarded the apical murmurs described by the President as due to actual regurgitation. The aortic systolic murmur referred to he considered was brought about by dilation of the left ventricle and relative stenosis of the aorta. There was too great a tendency at present to negative the importance of apical murmurs in young people.—Dr. W. BEZLY THORNE said he had been in the habit of calling such murmurs postural. They were curable, but not accompaniments of healthy hearts. They should not be made light of, but, on the other hand, one should hold before oneself in such cases the probability of their cure.—Dr. F. PARKES WEBER drew attention to a murmur sometimes heard about one ear and synchronising with the arterial pulse. The condition was sometimes known as "pulsating tinnitus." By an otoscope the murmur could be heard by an observer. It occasioned severe mental worry to the patient. It was scarcely ever due to an aneurysm, and disappeared.

Dr. J. MICHELL CLARKE read a paper on the Pathological Changes in a Case of Leukæmia from prolonged use of X rays. The patient, a middle-aged woman, was under observation

more or less continuously from 1908 to 1913, when she died. For nearly four years of this time she was treated during long periods by X rays; at first the spleen only was rayed, later the bones as well. During the first two and a half years this treatment was remarkably successful; she was able to work and the condition returned nearly to the normal. Beyond some pigmentation there were no cutaneous lesions. The spleen, at first extremely large, reaching to the iliac crest, gradually diminished and became small and hard. At the end of 1911 the liver began to enlarge and slowly increased in size until in 1913 it was of enormous size, almost filling the abdomen. There was no ascites until just before the end. After 1911 the X rays seemed to lose their effect in keeping the disease in check. She died in July, 1913, from toxæmia associated with hectic temperature, extreme prostration, emaciation, and hæmorrhages from the gums. Tables giving blood-counts during the illness were shown. In the last phase of the illness the number of white cells in the blood was about 2,000,000 per c.mm. Post mortem the most remarkable feature was the enormous size of the liver, which was firm, and mottled pink and yellow. The spleen was about the normal size, extremely hard and tough, and on section glistening, like hard wax. The peritoneum was studded over with firm, pale, miliary nodules. The lungs and kidneys showed leukæmic nodules, and the mediastinal, post-peritoneal, and mesenteric glands were enlarged, grey, firm, and pigmented. There was no evidence of tuberculosis. On microscopical examination the chief changes were great increase of fibroid tissue, with in places hyaline degeneration, in spleen and lymph glands together with destruction of proper lymphoid tissue and presence of myeloid cells. In the hæmolymph glands there were a number of cells of large lymphocyte type. In the liver there was an enormous intralobular accumulation of myeloid cells and tissue. In neither this organ nor in the marrow was there any decided increase of fibroid tissue. The marrow was packed with myelocytes. Infiltrations of myeloid cells were abundant in the other organs. The above changes showed that the essential leukæmic process continues under X ray treatment; though it is checked for a time, it proceeds to a fatal termination, X rays seeming to lose their effect after a period of time varying in each case. Meanwhile, amelioration, often for considerable periods, and prolongation of life under less discomfort resulted from the treatment. Interesting points in this case were the gradual contraction of the spleen and fibrosis of it to an extent which must have rendered it useless, and with this the gradual and finally enormous size of the liver, which appeared to take the place of the spleen as a repository to intercept and retain the immense number of myeloid cells formed in the marrow. The beneficial effects of X rays in leukæmia seemed to be chiefly, if not entirely, due to the extensive destruction by them of the abnormal cells in the spleen, glands, and marrow; after a time they either lost this power or were unable to cope with the number of cells formed. Warthin thought that in addition to the above they might inhibit the leukæmic process in the marrow. The effect of X rays would thus support the view, now generally accepted, that the disease was primarily and essentially one of the marrow and that the splenomegaly and glandular changes were secondary and subsidiary.—Dr. PARKES WEBER regarded the changes in the liver as indicative of a myelocytic reaction. He drew attention to the varieties of anæmia found in leukæmias. There was need for research in this connexion. Sometimes the blood resembled that of pernicious anæmia, sometimes aplastic anæmia.

SECTION OF THE HISTORY OF MEDICINE.

Election of Officers.—Dr. Thomas Spens: the First Describer of the Stokes-Adams Syndrome.—Microscopy.—The Tomb of Avicenna.

A MEETING of this section was held on May 27th, Sir WILLIAM OSLER, Bart., the President, being in the chair.

The following were elected officers of the section for the ensuing session:—President: Dr. Norman Moore. Vice-Presidents: Dr. Henry Barnes, Dr. Richard Caton, Sir Henry Morris, Bart., Sir William Osler, Bart., Sir Ronald Ross, and Sir Frederick Treves, Bart. Honorary Secretaries: Dr. Raymond Crawfurd and Dr. Leonard G. Guthrie. Other members of Council: Sir John William Byers, Dr. Dudley W. Buxton, Dr. A. J. Chalmers, Dr. F. W. Cock, Mr. Alban Doran, Dr. David Forsyth, Dr. James Galloway, Mr. E. Muirhead Little, Dr. R. O. Moon, Sir Shirley F. Murphy, Dr. J. A. Nixon, Mr. George C. Peachey, Mr. D'Arcy Power, Dr. F. M. Sandwith, Dr. Charles Singer, Dr. George W. Steeves, Mr. C. J. S. Thompson, and Mr. P. Macleod Yearsley. Representative on Library Committee: Dr. Raymond Crawfurd. Representative on Editorial Committee: Dr. Leonard G. Guthrie.

Dr. RAYMOND CRAWFURD, in the absence of the author, read a communication from Dr. C. E. LEA upon "Dr. Thomas Spens; the First Describer of the Stokes-Adams Syndrome." The first undoubted case of this syndrome was published in the year 1793 by Thomas Spens, a Scottish physician resident in Edinburgh. It is claimed that Robert Adams, of Dublin, in 1827 reported the first clear case of heart block, and in the same year a similar case was recorded in great detail by Dr. William Burnett, who also called attention to Morgagni's cases published in 1761—two in number—of "epilepsy with slow pulse." Holberton described another case in 1841, but general attention was not directed to this condition until William Stokes, of Dublin, published four cases in 1846. Dr. Lea gave details of a case recorded by Dr. Spens.[1] It is contained in a volume of the "Medical Commentaries for the Year 1792," which was published at Edinburgh in 1793 and was edited by Dr. Andrew Duncan. The communication ended with a short biographical notice of Dr. Spens.—Dr. HUMPHRY D. ROLLESTON asked whether in the case of eponymic disease the name should be given of the first person who recorded a case or of the person who first drew general attention to it by the accuracy of his description?

Dr. CHARLES SINGER gave an account of the earliest period of Microscopy. Convex lenses, he said, though known for centuries, were first adopted for investigating nature at the end of the sixteenth century. They were probably used by Mouffet and Hoefnagel more than 60 years before such workers as Hook and Leeuwenhoeck perfected their methods of manufacture. The compound microscope was first discovered more or less accidentally by Zacharias, a Dutch spectacle-maker, about 1590. The idea was soon taken up by Galileo and its principles developed by the work of Snell van Royen and Kepler. Amongst the earliest practical users of the compound microscope were the noble Frederigo Cesi, founder of the Accademia dei Lincei, the Sicilian naturalist Hodierna, the Neapolitan astronomer Francesco Fontana, the French physician Pierre Borel, and the German Jesuit Athanasius Kircher. The introduction of the microscope into medicine may be especially attributed to Borel and Kircher. The pioneer period of microscopic discovery closed and the classical period commenced with the work of Hook and Malpighi after the middle of the seventeenth century. Dr. Singer described in detail the work of these writers and illustrated his remarks by their own figures.—Mr. D'ARCY POWER remarked that amongst the pictures of microscopes shown by Dr. Singer was one introdnced by Descartes in 1637. Last year he had exhibited to the members of the section a portrait of William Harvey, dated 1639, in which the great discoverer of the circulation of the blood was represented with such an instrument. It seemed, therefore, as if Harvey had acquired such a microscope within two years of its invention.

Sir WILLIAM OSLER called attention to the need for restoring the tomb of Avicenna, which was again falling into decay, though it had been repaired on several previous occasions. He thought that the present cost of repair, including the expense of maintaining a watchman, would not exceed £500–£600. Such a sum of money might perhaps be raised without much difficulty by the combined action of the Société Française d'Histoire de la Médecine and the Royal Society of Medicine. These two societies were especially named because they represented the two European nations who were most interested in the state of medicine in Mohammedan countries. He suggested that the Persian Government should first be approached, and if a favourable reply were received a subscription list might be opened.

The members of the section afterwards adjourned to the Wellcome Historical Medical Museum, where Mr. C. J. S. THOMPSON showed the rearrangements that had been made during the recess.

[1] THE LANCET, Nov. 1st, 1913, p. 1238.

SECTION OF DERMATOLOGY.

Exhibition of Cases.—Mycosis Fungoides.

AT the annual meeting of this section, held on May 21st, Dr. J. J. PRINGLE, the President, being in the chair, the following cases were exhibited.

The PRESIDENT showed: 1. A man, aged 64, who had suffered from Mycosis Fungoides since 1898 in whom the first symptoms consisted of mycotic tumours on the face which were removed surgically about 1900. Subsequently the disease became generalised over the trunk and limbs, but had been controlled in a remarkable manner by very free administration of X rays, and latterly by prolonged exposures to a strong arc lamp. Despite the unusually long duration of the disease his general health was practically unimpaired. 2. A very extensive characteristic case of "Parapsoriasis en Plaques" in a youth, aged 20, and of nearly a year's duration. He was exhibited mainly to illustrate a condition which was until a few years ago generally considered to be a pre-mycotic state.

Dr. S. E. DORE showed a man, aged 63, who presented a patchy erythematous and somewhat infiltrated Eruption over the Trunk and Limbs of two and a half years' duration. The lesions were in many instances crescentic, showing central involution and raised pad-like periphery which suggested that they were probably early mycotic manifestations despite the absence of itching.

Dr. J. H. SEQUEIRA read a paper opening a discussion on Mycosis Fungoides. After a short review of the history of the disease he proceeded to discuss its etiology, basing his observations upon 13 personal cases and 61 case-histories from literature. Of these 74 cases, 46 of the patients were males and 28 females. The extremes of age at which the disease came under observation were 15 and 75 years, the three youngest patients being females respectively 15, 16, and 17 years old. Traumatism was the apparent determining cause in two of the recorded cases, but in most instances the patient had enjoyed good health up to the onset of the malady. Mycosis fungoides has been variously believed to be a granuloma, a form of sarcoma, cutaneous lymphadenoma, and lymphosarcoma. After discussing the histological and clinical features Dr. Sequeira concluded that the disease bore no relationship to lymphadenoma and leukæmia; that it was not sarcoma, but a disease *sui generis*. The examination of the blood was of no assistance, as there were no characters peculiar to the disease. As special points for discussion, he asked whether it was possible to make the diagnosis in the pre-tumour stage on (*a*) clinical grounds, or (*b*) the histology of the lesions. He believed this could be accomplished in some cases. The effects of X ray treatment were discussed, and it was held that while such treatment undoubtedly removed both the infiltration and the tumours, and certainly prolonged life and relieved suffering, it was still doubtful whether it was possible to effect a cure in this grave malady, even by the repeated use of the rays, and in support of this he gave brief accounts of the cases which he had had under his personal observation. As a last question for discussion he raised the subject of the cause of death in mycosis fungoides. In some few instances a fatal issue appeared to be brought about by metastases in the vital organs, but in most cases it appeared to be due to diarrhœa and general exhaustion.

Sir MALCOLM MORRIS related the histories and showed photographs of two cases of mycosis fungoides in a man aged 52, and a woman aged 28, who had been recently under his care. The former was in an advanced stage of the disease, and in spite of marked temporary improvement under X ray treatment one of the lesions in the frontal region persisted, and eventually caused his death in April last. The second patient was still under treatment, and the disease had been checked and a large number of the lesions had disappeared as the result of repeated doses of X rays. The speaker inquired if histological examination could enable a diagnosis to be made in the early stages of the disease, and suggested research on these lines.

Mr. J. E. R. MACDONAGH dealt in an exhaustive manner with the subject of lymphocytes and their presence and alterations in the tumours of mycosis fungoides and other allied conditions. His remarks were illustrated by numerous admirable microscopic preparations shown by the epidiascope. The practical conclusions he had arrived at were that, first, mycosis fungoides was not a disease *sui generis* but merely one of a series of affections of the lymphatic system, and second, that the diagnosis of the early stage of mycosis fungoides could not be made by mere microscopic examination of excised portions of tissue.

Dr. A. DOUGLAS HEATH (Birmingham) said he thought that the multiformity of the cells in all stages of mycosis fungoides distinguished it fairly well histologically from other granulomata and from the sarcomata. He showed photographs and sections from a fatal case of multiple sarcomata of the skin resembling the "*d'emblée*" variety of mycosis fungoides.

Dr. G. H. LANCASHIRE (Manchester) recalled a series of six cases which had come for treatment to the Manchester and Salford Hospital for Skin Disease some years ago. They all came during a period of three or four years, and since then the speaker had seen only one case, a private one, in the early pre-mycotic stage. The hospital cases were in various stages, mostly advanced, and some with large tumours. Photographs were shown. From the history given all these cases had been preceded by "dry-eczema" plaques, and all had had marked itching; all had died, but some were alleviated for a few years by X ray treatment.

After some remarks by Dr. R. A. BOLAM (Newcastle-on-Tyne),

Dr. J. A. NIXON (Bristol) referred to two cases which had come under his observation. One was a man, aged 65, who presented himself on one occasion only at the out-patient department. The other case was that of a young married woman, aged 26; her disease lasted about two years. It began with an eruption resembling tinea versicolor; after six months tumours appeared upon erythrodermic areas. These tumours suppurated freely from multiple small crater-like openings. The usual temporary improvement followed the application of X rays. Autogenous vaccines were tried without the slightest improvement. Eventually, after two years, the patient became covered from head to foot with huge fungating tumours and died suddenly from exhaustion. The case presented no resemblance either to lymphadenoma or leukæmia. The blood only showed some leucocytosis, which might have been accounted for by the suppurative process present.

Dr. W. KENNETH WILLS (Clifton) had only seen one case, which had apparently resulted from a wound round the margin of which a large single tumour formed. It was the case of mycosis *à tumeurs d'emblée* reported by the President at the March meeting of the section.

Dr. GORDON R. WARD said that he thought there were very close analogies between mycosis, leukæmia, and Hodgkin's disease. All might present analogous skin lesions of a nodular nature; all were chronic, reacted well to X rays at first but recurred later, and at times showed enlargement of glands and spleen. He would like to hear more of the histology of glands in mycosis fungoides. Were the changes spread throughout the gland as in leukæmia, or localised as in a secondary malignant focus? Were there any clinical characteristics of mycosis glands? Finally, was it not possible that some of the deaths from mycosis were really referable to the very massive doses of X rays given?

The debate on mycosis fungoides was adjourned until June 4th.

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at St. John's Hospital for Diseases of the Skin on May 19th, Dr. Morgan Dockrell, the President, being in the chair.—Dr. J. L. Bunch showed two cases: 1. A girl, aged 19, with a Raised Indurated Lesion on the Left Cheek, which he thought at first might be actinomycosis. Bacteriological examination of the pus revealed large numbers of acne bacilli, which were grown quite readily on ordinary agar culture media at the end of four days' incubation at 37° C. 2. A woman, aged 62, with a Symmetrical Hyperkeratosis of the Palms and Soles of the Feet due to absorption of arsenic.—The President showed a case of Idiopathic Multiple Hæmorrhagic Sarcoma in a man aged 48. The duration of the disease was from two to three years; the condition first commenced with an œdema of the hands and feet, then a papular condition appeared which showed an effusion of blood with some bruising; the lesions then suddenly disappeared, leaving some small nodules showing the hæmorrhagic condition. Microscopically, there was involvement of the connective tissue with an increase of spindle-shaped cells and dilatation of blood-vessels.—Dr. W. Knowsley Sibley showed: 1. A case of Erythema Annulare in a woman aged 56, who

had had recurrent attacks for 18 months, the present condition consisting of a lesion on the back of the hand and forearms which had been present for five days and was rapidly fading. 2. A girl, aged 18, with Dermatitis Artefacta in the form of a symmetrical bullous eruption, which appeared on different parts of the body, here and there occurring in straight lines. —Dr. W. Griffith showed a case of Cicatricial Alopecia and of Lupus of the cheek of 34 years' duration.—Dr. Simonds Gooding showed a case of Para-psoriasis in a woman aged 42. The lesions were present on the front of both legs.—Mr. Frank Curry then gave a laboratory demonstration and exhibit on Tuberculins, their Preparation and Standardisation. The exhibit was prepared at the Wellcome Physiological Research Laboratories.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.—A meeting of this society was held on May 13th, Mr. A. J. Martineau (Brighton) being in the chair.—Mr. J. Walker Wood read notes of a case of Double Acute Frontal Sinusitis due to the Diphtheria Bacillus. A few pneumo-bacilli were also found in the discharge. 4000 units of anti-diphtheritic serum were given, followed in three days by 2000 units and removal of the anterior end of both middle turbinals. Subsequent irrigation of the cavities led to the complete cessation of the acute condition. Mr. Wood also showed specimens of Ossicles (malleus and incus) with mass of cholesteatoma removed while carrying out a routine examination from the auditory meatus of a patient, aged 24, who made no complaint of any discharge. There had been aural discharge in childhood, but none for the last ten years.—Mr. Charles J. Heath read notes of a case of Deafness accompanied by Nasal Obstruction, caused by an abscess in a mass of adenoids, and accompanied by considerable swelling of the glands of the posterior triangle of the neck on both sides; there was a free flow of pus through both nostrils during the removal of the adenoids and rapid and complete recovery afterwards. Mr. Heath also showed a case of Acute Otitis Media accompanied by Vertigo due to swelling of tympanic mucous membrane. There was profuse discharge from and pain in the ear, both caused by retention of secretion in the mastoid antrum (acute mastoiditis). Relief by conservative mastoid operation, and complete restoration of hearing.—Mr. Martineau said that he had seen several cases this year of acute ear trouble without the classical signs of middle-ear and antral disease. At operation an unusual amount of disease in the mastoid had been found.—In reply to a question Mr. Heath said that during the conservative mastoid operation he left at least one-eighth of an inch of the hinder part of the bony meatus to protect the ossicles and the drum-head.—Mr. Frederick Spicer showed two cases for diagnosis.

Reviews and Notices of Books.

A Text-book of Medicine.

By G. DIEULAFOY. Second edition. Authorised translation from the sixteenth edition of "Manuel de Pathologie Interne" by V. E. COLLINS, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond., and J. A. LIEBMANN, Ph.D., M.A., LL.D. In two volumes. London: Baillière, Tindall, and Cox. Pp. 2156. Price 25*s.* net.

IN our review of the first English edition of Professor Dieulafoy's well-known text-book of medicine we referred to its original and instructive character, and pointed out its special value as representative of French medicine, while we were glad to observe that due recognition was given to the work done in this country. We then discussed its contents at considerable length, and expressed a highly favourable opinion of its usefulness as a text-book and work of reference. This new edition has been translated from the sixteenth French edition, which was published just before the death of its distinguished author. It retains the general arrangement and special features of its predecessor, and does not therefore need detailed examination in our columns. It has been thoroughly revised.

Among the many new sections which have been incorporated we may mention that dealing with pachypleuritis and inexhaustible pleurisy, under which terms Professor Dieulafoy has described cases in which pleurisy with effusion may last for years, the effusion recurring almost immediately if paracentesis is carried out. Septicæmia due to certain specific organisms such as the streptococcus, staphylococcus, and gonococcus now receives special description, and in this connexion the importance of blood culture is strongly emphasised. An interesting account of the condition of sporotrichosis is given, and its history, pathology, diagnosis, and treatment are dealt with clearly and succinctly. Another new section is that devoted to a consideration of hæmolytic icterus, in which both the congenital and acquired forms are carefully described and differentiated. The methods of investigating the fragility of the red corpuscles are indicated. Some recent developments in regard to treatment are discussed in an appendix. The new arsenical compounds, hectine and Ehrlich's salvarsan, are critically considered. The therapeutic uses of vaccines and their control by the use of the opsonic index are briefly referred to. The employment of superheated air in the treatment of gangrene, arthritis, and neuralgia is favourably reviewed.

Professor Dieulafoy's text-book is a most interesting and instructive work, and one we can strongly recommend. The translators have, as in the previous edition, carried out their work admirably, so that even in translation the descriptions given of the illustrative cases, which are frequently interpolated in the text, retain their arresting and almost dramatic vividness. The discussion of the pathological problems involved and the various forms of treatment recommended show fully the great critical and analytical faculties of the learned French clinician, whose text-book forms a worthy monument of his clinical acumen and industry. It is true that his genius for description and classification has led to a number of conditions being regarded as distinct clinical or pathological entities, which are hardly so regarded in this country at present, but these in some ways only serve to heighten the interest afforded by a careful study of this book and to increase its suggestiveness.

Diseases of the Rectum and Anus, including the Sixth Edition of the Jacksonian Prize Essay on Cancer.

Fourth edition, reprinted to include the Opening Address on the Surgical Treatment of Rectal Cancer, delivered at the Annual Meeting of the British Medical Association, Liverpool, 1912, by HARRISON CRIPPS, F.R.C.S. Eng., Consulting Surgeon, St. Bartholomew's Hospital. London: J. and A. Churchill. 1913. Pp. 588. Price 10*s.* 6*d.* net.

THE length of the title of this work somewhat reminds us of the title-pages of books of a century or two ago; however, it gives the reader a very good idea of the contents. It is superfluous nowadays to praise any writing on the diseases of the rectum coming from the pen of Mr. Harrison Cripps, and therefore we need do no more than indicate what this book contains. An interesting account of the anatomy is given, and in this connexion the author's teaching with regard to the anastomoses of the hæmorrhoidal veins is worth noting, for he holds that there is very slight, if any, anastomosis between the radicles of the hæmorrhoidal branches of the inferior mesenteric vein and the radicles of the internal iliac vein. Of this he adduces two proofs: in the first place, it is impossible to inject

the hæmorrhoidal plexus through the iliac veins; and, secondly, it is impossible to inject the iliac veins through the hæmorrhoidal plexus. Another noteworthy point is that the author considers that a good deal of absorption goes on in the rectum, though modern opinion is tending in the opposite direction. Further, he has made observations which have led him to hold that the nuclei of the columnar epithelium lining the rectum give rise to leucocytes.

The chapter on diagnosis should prove of service to the learner. Mr. Cripps tells us that he has long ago discarded the use of a rectal speculum, except the duck-bill which he employs in operating. He holds that a speculum can never be usefully employed except when the patient is under an anæsthetic. The educated finger is, he tells us, far the most trustworthy and satisfactory instrument for diagnosis. In the chapter on imperforate anus the author has collected a good deal of evidence to show that in many persons on whom an operation has been performed the bowel has been perfect functionally even many years after the operation. These facts are of special interest, for surgical literature contains many references to the immediate effect of these operations, while the records are few as to the ultimate results. In the treatment of fistula in ano Mr. Cripps still uses the elastic ligature in exceptional cases when the nervous or physical condition of the patient renders a cutting operation inadvisable; he considers it especially suitable in cases of phthisis, for the patient need not be confined to bed.

Probably the most important section of the book is that dealing with cancer of the rectum. This is based on the Jacksonian prize essay, which Mr. Cripps wrote in 1876. It is satisfactory to find the author stating that in his experience an early and free removal is followed by a good percentage of cures; and from his statistics it appears that in 37·6 of his cases which he was able to trace for three years no recurrence had occurred. Mr. Cripps has appended a valuable series of tables relating to cancer of the rectum.

In conclusion, we may say that this work will compare favourably with any treatise on diseases of the rectum in any language.

Diseases of Children: A Manual for Students and Practitioners.

By JOHN MCCAW, M.D. R.U.I., L.R.C.P. Edin. London: Baillière, Tindall, and Cox. 1914. Pp. 524. Price 10*s.* 6*d.* net.

IN offering this little work on the diseases of children to students and practitioners the author expresses the view that there is possibly room for another work on this subject, if of moderate dimensions and of modest price. There can be no doubt that both students and practitioners deserve all the encouragement possible to stimulate them to equip themselves in this important subject as thoroughly as the exigencies of an already overcrowded curriculum and a generally too busy life in active practice may permit.

We have read this little book with some care, and have come to the conclusion that it contains all the information students and practitioners usually require, and in as short and compact a form as is compatible with lucidity. Dr. McCaw appears to have kept himself well informed of the progress of modern pædiatrics, and we notice that mention is made of most of the rarer diseases and pathological curiosities, and not to the exclusion of the more common diseases.

The author adheres for the most part in a very conservative manner to the traditional lines on which works of this kind are usually arranged. There is, however, a new suggestion in the chapter on that much-discussed condition to which the name of cœliac disease was originally given by Dr. Gee. Dr. McCaw finds that one of the peculiarities of this disease is that the liver remains small, and he tentatively suggests that a delayed development of this important organ and a want of bile may be concerned in the pathology. Although the stools in such cases are undoubtedly pale in colour, we were not aware that there was evidence to prove that the actual secretion of bile salts or bile colouring matter was reduced in this disease. Indeed, the very name acholia, given to it by the late Dr. W. B. Cheadle, may from this point of view be open to objections.

With regard to the pathology of two other common conditions, rickets and scurvy, it is interesting to note that the author ascribes a very simple explanation to the first—namely, that it is a general disease, consequent on absorption of toxins from the intestines as a result of improper feeding and catarrhal inflammation; and a very guarded one in the case of the latter—namely, that it is due to defective diet and want of fresh food. He gives Professor Ausset's comparatively little known theory that scurvy is a disease of an infective nature, and he omits all mention of the recent and important work that has been published on the subject of the vitamines. Rheumatism and rheumatoid arthritis are also included among the infective disorders. In the article which deals with convulsions no distinction is made between the exciting cause that determines the convulsive seizure and those predisposing causes that raise the excitability of the nervous sphere; the etiology is explained on grounds which may be indifferently referred either to exciting or to predisposing causes. The position is not made clear that an exciting cause is always necessary for the determination of an explosion, and that so-called spontaneous cases of convulsion cannot exist, although they may occur on very slight provocation in those conditions in which the level of excitability has been unduly raised from hereditary, congenital, or environmental causes.

Die Erkrankungen der Blutdrüsen.

Von Professor Dr. WILHELM FALTA, Wien. Mit 103 Textabbildungen. Berlin: Julius Springer. 1913. Pp. 550. Price, paper, 22 marks; bound, 24.50 marks.

THIS useful and readable text-book is concerned only with the clinical side of diseases of the ductless glands. Their experimental physiology and pathology are alluded to merely as occasion requires. The work is based mainly on personally observed cases, in the examination of which the author has had the advantage of collaboration with neurologists and others. How extensive even this limited aspect of the subject has become may be gauged from the size of the book—550 closely printed pages of large octavo; and yet the author's style is not prolix, nor are his clinical cases reported at undue length; nor, finally, are we confronted with much of the "spade-work" with which not a few German text-books seem to find it impossible to dispense.

An introductory chapter deals with such general considerations as the relation of the ductless glands to the nervous system, their inter-relations and

bearing on growth and metabolism, their connexion with the hæmopoietic system, and pluriglandular disturbances. Then in turn the diseases of the thyroid, parathyroids, thymus, hypophysis, epiphysis, suprarenals, and sex glands are described and illustrated. Polyglandular syndromes are next discussed, and there are sections on dwarfism, achondroplasia, mongolism, the diseases of the islets of Langerhans and their relation to diabetes mellitus, the varieties of obesity and adiposis dolorosa. It will thus be seen that a great deal of ground is covered in the book and that conditions whose association with impairment of function of the ductless gland system is doubtful are nevertheless given a place. In each chapter, it should be said, there are useful introductory paragraphs on the anatomy and embryology of the glands concerned.

The author's classification of infantilism will probably be somewhat unfamiliar to the English reader. This matter of infantilism is certainly one of the most difficult questions in the whole subject, and it is one on which much work remains to be done. We do not find in the book any very clear recognition of a retrograde infantilism, nor is the type described as ateleiosis by Gilford apparently regarded as such, at least in any definite way. The author distinguishes two varieties, following Hansemann: (1) nanosomia primordialis, in which the dwarfism is congenital and seen at birth, but with the exception of the smallness of stature development is otherwise normal, and (2) nanosomia infantilis (Paltauf's type), where the infant develops normally up to a certain age and then development abruptly comes to a standstill.

With its fine illustrations, good bibliographies and indices, and its general conciseness and appreciation of essentials, the volume is, we consider, a really excellent presentation of the clinical aspect of a most important and interesting group of diseases.

Allen's Commercial Organic Analysis.

Volume VIII. Fourth edition. Entirely rewritten. Edited by W. A. DAVIS, B.Sc., A.C.G.I., and SAMUEL S. SADTLER, S.B. London: J. and A. Churchill. 1914. Pp. 696. Price 21*s.* net.

BY the issue of the eighth volume this "treatise on the properties, modes of assaying, and proximate analytical examination of the various organic chemicals and products employed in the arts, manufactures, medicine, &c.," is concluded. The editors, however, propose to issue later "a supplementary volume which shall contain not only a complete reference index of the whole work, but shall bring the latter completely up to date by the incorporation of all processes of analysis and information regarding analytical processes which have appeared in the interval that has elapsed since the revision of the work was first taken in hand."

The first volume of this edition was issued in 1909, so that the editors have undertaken to supplement the present materials by a record containing the advances in analytical chemistry which have been made during the past six years or so. This attempt, of course, recognises the difficulty or impossibility of keeping a work absolutely in touch with new developments. In analytical chemistry these developments refer mostly to details of procedure which do not always affect general principles or the outlines of a broad scheme of examination. It is on modern general principles of analysis applied to organic products employed in the arts, manufactures, medicine, &c., that the new edition of "Allen's Commercial Organic Analysis" will be trusted and valued. The volumes may have lost in regard to general arrangement their identity with the original volumes, but care has been taken to secure a staff of writers each well qualified to write upon the particular subject relegated to him. That is peculiarly obvious in the later volumes, and especially in the one before us. Each writer here is an acknowledged authority on the subject with which he deals, and the subjects in this case happen to possess medical significance. For example, E. Frankland Armstrong contributes a practical section on "Enzymes," and another on "Proteins of Plants"; S. B. Schryver a chapter on the "Proteins and Albuminoid Substances," and by the same author is a chapter on "Digestion Products of the Proteins"; L. L. van Slyke, one on the "Proteins of Milk"; Henry Leffmann on "Milk" (composition and analysis); W. D. Richardson, of Chicago, the chapter on "Meat and Meat Products"; J. A. Gardner, with G. A. Buckmaster, the chapter on "Hæmoglobin and its Derivatives"; Jerome Alexander, of New York City, the chapter on "Albuminoids or Scleroproteins," and W. P. Dreaper that on "Fibroids" (silk, hair, wool, &c.)

This volume completes a series which provides the analytical chemist and others with an excellent armamentarium, and it may be remembered that scarcely a day passes without witnessing the introduction of new organic products which sooner or later come to possess both scientific and commercial importance. The need of a work of reference on this special section of analysis is therefore evident, and the volumes we have referred to will, we are sure, be found to meet the case.

Chronic Colitis, its Causation, Diagnosis, and Treatment.

By G. HERSCHELL, M.D. Lond., and A. ABRAHAMS, M.D. Cantab. With 4 figures. London: Longmans, Green, and Co. 1914. Pp. 276. Price 6*s.* net.

IN their account of chronic colitis the authors lay great stress on the necessity of diagnosing the cause accurately and giving individual treatment in each case. Very commonly the disease results from chronic constipation and the purgative habit; in other cases it is the result of chronic infection from pyorrhœa, post-nasal catarrh, or chronic appendicitis, for example; the influence of the nervous system in its production is nowadays held to be negligible. An excellent account of the most recent methods of diagnosing chronic colitis is given, in which the services of the pathological chemist and the bacteriologist are freely invoked. Treatment is gone into with great thoroughness, and occupies 120 pages. Detailed recipes for the preparation of a number of drinks and dishes are set out, and should prove of service to those who are called upon to look after these very troublesome cases. Numerous references to the literature are given throughout the volume.

The book is highly dogmatic, clearly written, and quite practical; it may be recommended to the attention of all medical practitioners. But a protest against the word "scybalæ" (pp. 14, 21) must be registered. It derives from the word "scybalon"; but the plural of "scybalon" is "scybala," and "scybalæ" is formed by false analogy.

Kurzes Lehrbuch der Militärhygiene.

Von Dr. JAROSLAV HLADIK, Oberstabsarzt. Wien und Leipzig: Josef Safár. 1914. Pp. 532. Price 12 marks.

THE author is professor of hygiene in the military medical technical school at Vienna, and has written this manual of instruction to replace the one hitherto in use, which has become out of date. He has aimed at making it essentially practical and comprehensive, and has included a description of such processes of chemical analysis and bacteriological cultivation methods as may be carried out by the ordinary trained worker who is not a specialist. The book is, therefore, on the lines of the well-known treatise by Parkes, which for so many years occupied an unchallenged position in this country as a comprehensive and authoritative text-book on all branches of hygiene.

The author divides his subject matter into 17 chapters. The first 11 of these deal successively with air, soil, water, clothing, food, removal of excreta, burial of the dead, hygiene of the dwelling, ventilation, heating and lighting. The arrangement does not seem very logical or natural—a matter of some importance for the beginner in the study of this subject. In the chapter on air, its chemical composition and the significance of the various components are described, and some account is given of meteorology and the main facts regarding climate. Mr. John Aitken's observations on dust and precipitation are mentioned, but there is only brief allusion to the impurities met with in the atmosphere. The amount of water required is placed at about 120 litres per head per day—that is, 26½ gallons—for all purposes. This, though rather more than the amount supplied to Berlin, is hardly so much as would be aimed at by the hygienist in this country, where for many years 30 gallons have been considered to be the quantity that should be provided if possible. A rather full account is given of the fauna and flora found in water, with numerous figures. The description of purification by filtration is hardly so detailed as its importance demands. On the other hand, the chapter on food and alimentation occupies more than a hundred pages—that is, about one-fifth of the whole work. This subject is very well treated. In regard to alcohol, the author considers that it is unnecessary for persons in health. The advantage of abstainers over non-abstainers in regard to expectation of life is alluded to, as shown by English assurance statistics, but no facts bearing on the question are adduced rom German experience.

Removal and disposal of sewage is dealt with very shortly in 20 pages, and in regard to the importance of the subject according to English ideas it can hardly be said that the treatment is adequate. The use of petroleum for urinals is recommended. It would be well if this were more widely adopted in our own country; we believe it has been in general use in army barracks for some years with satisfactory results. Ventilation is discussed shortly in 15 pages, and the practical difficulties to be overcome seem to be hardly appreciated. Heating and lighting, on the other hand, receive full consideration; a good description is given of artificial methods of warming, which, of course, are used more extensively and are of greater variety in Austria than in Britain. A temperature of 18° to 20° C. is recommended for living rooms, a little higher than that proposed by Rubner, and, of course, higher than is usual with us, where 18° C. (= 64·4° F.) would be generally considered sufficient. Electric heating promises to be ideal, but Körting is quoted as estimating the cost at 20 times that of a coal fire. The chapter on clothing is original in its treatment, and full of interest. An important point not always given sufficient attention to is the shape of the boot—the right shape and the reason for it are explained. A diagram shows the Meyer and Starke lines, and their significance is made clear. In the chapter on hospitals several plans are given of buildings of modern design in Vienna and elsewhere, which seem to be remarkably complete.

The concluding chapters deal with infectious diseases and their prevention. Tuberculosis comes first, and is declared to be the most destructive of all by reason of its universal prevalence. Of late years it has declined in the Austrian army. The death-rate in 1875 was more than 2 per 1000 of the strength; it has now fallen to 0·61 per 1000. Infection is regarded as being chiefly direct from person to person, milk and meat being unusual and subordinate spreaders of the disease. Vaccination is thoroughly carried out in the Austro-Hungarian army, and since 1898 not a single death has occurred from small-pox. Enteric fever is regarded as being chiefly propagated by water; after this by milk, and thirdly, by contact cases. Paratyphoid fever is described succinctly; also phlebotomus fever and trypanosomiasis (shortened to "trypanosis," which is hardly legitimate).

The volume contains 134 illustrations, and is to be recommended as a comprehensive text-book of military hygiene.

LIBRARY TABLE.

Hygiene and Diseases of India. A Popular Handbook. By Lieutenant-Colonel PATRICK HEHIR, M.D. Brux., I.M.S. Third edition. Madras: Higginbothams, Limited. 1913. Pp. 1003. Price Rs. 6.8, or 8s. 8*d*.—This compact volume gives in simple and untechnical language a comprehensive account of all matters relating to hygiene and public health in India. It is divided into three sections. In Section I., entitled General Hygiene, water, its supply, examination and purification, air and ventilation, food and dietetics, the removal of excreta, sanitation of towns and villages, and public health regulations are considered. Section II. deals with the skin and its functions, bathing, clothing, exercise, disinfection, bacteriology, immunity and animal parasites, with some general remarks on infectious diseases, thus composing rather a heterogeneous section, hardly well named "Personal Hygiene." The rest of the work, forming Section III., consists of an account of the diseases of India, arranged more or less alphabetically. The author has industriously brought together a large amount of information, but it cannot be said to be presented in any order, or digested into any satisfactory form; it is, therefore, not an easy book to refer to, and the absence of any table of contents is inexcusable. On page 23, referring to goitre in connexion with water, the author states that "the evidence to incriminate water ..... is not very convincing"; McCarrison's researches in Kashmir have placed the matter beyond doubt. The *carrying* a gallon of water 50 yards does not involve the same amount of muscular work as the *lifting* it 150 feet, as implied on p. 42. The available capacity of a reservoir is said (p. 60) to be "the volume contained between the lowest working water levels," a statement that has no meaning; there is obviously an omission.

The account of filter beds is inadequate, especially in view of the great attention that has of late been paid to this subject in India. On p. 87 it is stated that the acid produced by the colon bacillus causes the litmus solution to become blue or bluish. The remark on Chamberland and Berkefeld filters that "there is little to choose between them" requires amplification; as does the subsequent statement that "no other filters are reliable." With regard to domestic filters in general, stress is laid upon the need for cleaning them, but nothing is said as to sterilisation. The account of bacterial purification of sewage (which comes under the head of Removal of Excreta) is very inadequate. To stigmatise the pail or pan used for removal as "a movable cesspool" (p. 316) is not reasonable, especially as on the next page the author admits that, "taking all circumstances into consideration, it is that which appears to be the most efficient of the 'dry' systems for a large Indian community." The use of the word "cistern" for cesspool is very unusual and to be deprecated. Having criticised some points of detail it remains for us to repeat that in compact form Colonel Hehir has here compiled a useful handbook, full in its treatment, and evidently based largely on practical experience. If the misprints and peculiarities of spelling were amended, and more care taken as to the arrangement of the information, the book would be pleasanter to read.

Expectant Motherhood: its Supervision and Hygiene. By J. W. BALLANTYNE, M.D., F.R.C.P. Edin., Physician to the Royal Maternity Hospital, Edinburgh. London, New York, Toronto, and Melbourne: Cassell & Co. 1914. Pp. 288. Price 6s. net.—This book deals with a discovery in medicine and the laws which will follow or have already followed it. It has to do with the health value of the nine months which precede birth, and with the commandments in hygiene which the parents, but especially the mother, must obey if their child is to come strong and well into the world; with the investigation of all the things which may go wrong with the unborn infant, and with the inquiry into their possible prevention or cure; with the well-being of the babe before birth, and consequently with the care and protection of the mother who bears him in her womb. In scientific language the subject is that of antenatal or prenatal hygiene and pathology and of gestational therapeutics; in more popular words, it is that of health and disease before birth and of the care of the expectant mother in health and sickness. We can only reach the unborn infant through the mother who carries him, and so the prenatal life of the child and of the mother who bears him in pregnancy are closely bound together and depend one upon another. It would be difficult for us to describe the nature and scope of this book better than in the words of the author, and for this reason we have quoted freely from the introduction. Anything that Dr. Ballantyne writes is always interesting, and this book is no exception. The whole forms a fascinating account written with the author's usual charm and lucidity, and is a book which should be in the hands of every young married woman.

Dental Diseases in Relation to Public Health. By J. SIM WALLACE. London: The Dental Manufacturing Company. 1914. Pp. 90. Price 3s. net.—The dental profession has for years realised the great importance of dental diseases in relation to public health, and has been most persistent in bringing this question before the proper authorities. It must indeed be a satisfaction to those who have worked so hard in this direction to know that public health authorities are now fully alive to the great influence that the teeth have on the welfare of the community. Dr. Sim Wallace's last work would therefore seem to have been published at an opportune moment, and should prove of inestimable value to those interested in this great question. The book is really a reprint of three communications: the first to the International Medical Congress, the second to the Royal Sanitary Institute, and the third to the State Medicine Section of the British Medical Association, 1912. Of the three papers, the first is by far the most important, and it is a most masterly exposition of the subject. It is thoroughly logical, and cannot fail to bring home even to the doubter the great economical importance of dental disease. The author shows that diseases of the teeth are quite easily preventable, and would be easily prevented if the medical profession would lend their aid, partly by realising the nature of the pathological processes and partly by advocating a rational dietary. We are in entire accord with this statement: "If the diseases of the teeth are prevented the hundreds of thousands, perhaps millions, of pounds which are spent on their treatment would be prevented. So, too, if the diseases of the teeth are prevented, the millions of pounds which are spent on the treatment of diseases resulting from diseased teeth would be saved."

MISCELLANEOUS VOLUMES.

OF medical interest in our miscellaneous column this week are the following. The Address of Sir HENRY MORRIS on *School Education and the Influence of the Study of Nature*, delivered at Epsom College on Founder's Day, July, 1913, was abstracted at some length in THE LANCET of August 2nd, 1913, p. 340. As now republished in pamphlet form (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 24) it contains several passages which had to be omitted in the delivery, and doubtless all Epsomians and many others especially interested in medical education will be glad to have the opportunity of perusing at leisure so extensive a review of the principles that have animated educationists from ancient Egypt and Assyria, through Rome and Greece, the Middle Ages and the Renaissance, down to modern times.—We published in our issue of April 11th (p. 1035) a communication by Mr. HEATON C. HOWARD, L.R.C.P. Lond., M.R.C.S., on the *Therapeutic Value of the Potato*. The matter then published has been used as the basis of an extended brochure (London: Baillière, Tindall, and Cox. 1914. Pp. 31. Price 1s. net), which contains in addition chapters on special bandaging, hypodermic medication, a digit meter, and a hallux meter.—The Scientific Press, Limited, have published a *Case-book for Massage and Weir Mitchell Treatment* (price 6d., containing 54 case sheets). The massage sheets are ruled for patient's name, address, and age, doctor's name, nature of complaint, treatment ordered, with columns for height and weight measurements, pulse, temperature, and an account column. The Weir Mitchell sheets give necessary columns for diet, condition, electrical treatment, and pulse condition before and after.

Questions of social economics are becoming more and more of paramount interest to medical men. In THE LANCET of March 11th, 1911, and again in that of Jan. 27th, 1912, we commended a series of essays on "Duty and Discipline," designed to compel attention to the very obvious growth of indiscipline and to the general decay of the sense of duty. In further extension of the Duty and Discipline Movement we have before us a new book, *Anarchy or Order, Twelve Papers for the Times* (London: Duty and Discipline Movement, 117, Victoria-street. 1914. Pp. 125), pointing out that while anarchist doctrine is rarely formally held or preached by British men and women, anarchist modes of thinking and living are encountered every day in all ranks. The first paper, On Anarchy, by Helen Hester Colvill, contains much wisdom, and is written with an enticing charm of manner. She bewails the substitution

of secular for ethical and religious knowledge. She describes the method of "Signora Dottoressa Montessori telling us in no uncertain tones that she is going to reform education all over the world, from *the children's point of view*," and seriously questions whether in all this new system unwilling children ever really gain the power of doing something they don't want to do. If the good intelligent children grow up reasonable and disciplined—though perhaps "soft"—what, she asks, about the naturally insubordinate, mischievous, dull, perverse, perhaps vicious? Other essays deal with sentimentality, decay of authority, the training of children, and an introduction, entitled "A Voice of Warning," to the ethical works of Dr. F. W. Foerster.

The holiday season is upon us. *Holidays and How to Use Them*, by CHARLES D. MUSGROVE, M.D. Edin. (Bristol: J. W. Arrowsmith, Limited. 1914. Pp. 205. Price 2*s.* 6*d.* net), is an attempt, and a successful one, to deal with the numerous trifles which, if neglected, are apt to mar a holiday. The book is written in a chatty and pleasant manner. The first chapter opens with an inquiry into the object of holidays, which, as the author rightly says, are a form of life insurance against failing powers and ill health. This is followed by general directions as to packing up, diet, baths, reading, railway journeys, and other important small matters, and an account of the various sorts of holidays—seaside, country, town, mountain, lake, and so on, as well as the most suitable recreations, such as sketching, photography, fishing, and natural history. Walking, climbing, cycling, motoring, camping and other holiday occupations claim the author's attention, and there is a chapter on ailments incidental to holidays. The child is not forgotten, and those who have the planning of holidays for little ones will find much help from a perusal of the chapter dealing with the subject. The book is a practical one.—The next question as to holidays is, Where shall we go? A perusal of *The Queen Newspaper Book of Travel: a Guide to Home and Foreign Resorts*, compiled by M. HORNSBY, F.R.G.S. (London: The Field and Queen, Limited. 1914. Pp. 542. With 21 maps and 72 illustrations. Price 2*s.* 6*d* net), will suggest the answer. In this guide the various British and foreign health resorts are arranged in alphabetical order according to countries, brief notes being given with regard to climate, accommodation, amusements, and other matters. There are also practical hints on touring for the visitor to foreign countries, articles on outfits, luggage, foreign etiquette, and so forth, tables of routes and fares from London, and a comprehensive list of guide-books and other literature dealing with travel. There is also a directory of English medical men resident abroad. Altogether it is a useful book.—For those who decide on a holiday abroad the new and enlarged edition of *German Self-Taught, with Phonetic Pronunciation*, revised by W. E. WEBER, M.A. (London: E. Marlborough and Co. 1913. Pp. 146. Price, paper, 1*s.*; cloth, 1*s.* 6*d.*), contains lists of useful everyday words and phrases, together with their pronunciation—quite sufficient for anyone to acquire an elementary knowledge of German of particular use to the tourist. The book should fulfil business and social requirements also. Previous editions of this book included a brief summary of German grammar, but this now forms the basis of another little volume, *German Grammar Self-Taught*, by W. E. WEBER, M.A. (same publishers and price. Pp. 144). This is written primarily for those who have no opportunity of obtaining tutorial assistance.

For those interested in the municipal, commercial, or social life of the City of London, the *City of London Year Book and Civic Directory, 1914* (London: W. H. and L. Collingridge. Pp. 392. Price 5*s.* net), is an important work of reference. In addition to lists of members of the Corporation and of the London County Council and articles on the work of these bodies for the past year, it contains brief histories of the livery companies, accounts of the charities attached to them, addresses of officials and members, and much information of a like character. Particulars of City schools, with details of fees, scholarships, and so forth, are also given, and in the commercial section will be found an official list of the members of the Stock Exchange, the Baltic, and Lloyds. Some of the information in this book is not to be found in other annuals, and the fact that it appears at the end of the first quarter of the year is an obvious advantage, as official changes made in the early months of the year can thus be included.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 27TH.

THE Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council proceeded to hear complaints against practitioners.

The first case to be heard was that of Haripado Chatterjee, registered as of 1, East View, South Moor, Stanley, co. Durham, L.R.C.P. & S. Edin. and L.R.F.P.S. Glasg., 1910, who had been summoned to appear before the Council on the following charge:—

That, being a registered medical practitioner, you, in the year 1913, accepted the post of medical officer of an association known as the South Moor Medical Association in the knowledge that such association had through its officials, by widely distributed circulars, by personal canvassing, and by solicitation of members of the miners' union in the South Moor district, sought to secure members of such association who, on joining it, would become the patients of the medical officer thereof. And further that you have by public speaking in the South Moor district and by advertising in such speeches your own qualifications taken a prominent part in inducing and endeavouring to induce persons to join the said association and so to become your patients. And further that throughout the year 1913, knowing that you were being advertised in the South Moor district as the doctor of the said association, you acquiesced in such advertising and continued to be employed as its medical officer. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association. They were represented by Mr. W. E. Hempson, solicitor.

Mr. Chatterjee attended, and was also represented by Mr. R. Strother Stewart, solicitor.

All members of the Council who were also members of the British Medical Association withdrew from the hearing of this case.

Mr. HEMPSON, in opening the case for the complainants, said that he had four cases to present to the Council this session which had many features in common. In all these cases he represented the British Medical Association. He wanted to lay stress upon that, because there were no other complainants in the matter. The sole complainants were the British Medical Association, who in the interests of the medical profession brought forward these cases which they thought merited the consideration of the General Medical Council. These cases had relation to medical aid institutions which were governed by a lay body. He should put before the Council the question whether it was possible for these institutions to be formed without the aid of canvassing and touting for patients. So far as he was concerned he had never known one. In all the cases which he would submit to the Council he would submit evidence of this. A medical man whose conduct was impugned in such a matter as this was bound to assure himself of the circumstances which existed anterior to his joining the institution. He ought to be put on his inquiry that he had thoroughly satisfied his mind that the association to which he was asked to attach himself was not one which had been formed by methods of canvassing and touting for patients. Recent legislation had altered the conditions of medical practice very considerably. He did not know whether that tended to the interest of the profession or not. It would be found in these cases which would be brought before the Council that they were due almost entirely to the altered condition of things which had caused these institutions to spring up to defeat the direct purposes of recent legislation. He wanted to bring certain circumstances before the Council. One practitioner would no doubt say: "I am extremely sorry that there should have been canvassing and touting by which this Association has been built up. I did not know of it. Now I have had it brought to my knowledge, I shall take such steps as are in my power to prevent it recurring in the future." But was such an attitude as that sufficient? He would put it to the Council that in such a case the practitioner would be taking the fruits of what had been done. If a practitioner in such a case were allowed to remain in that position unchecked, he (Mr. Hempson) would submit to the Council that that was a direct encouragement for others to do the same in regard to similar institutions, and to continue doing so. Some other

practitioners would admit the fault that had occurred, and would show some repentance in regard to it by dissociating themselves from the institution of which complaint had been made. Provided they continued to practise in the immediate locality they were taking to themselves the fruits of what had occurred under circumstances which he would submit to the Council should merit its disapproval. It could not be said that medical men were without warning as to the risks which they ran. They had had warnings repeated by the Council and made known through medical journals. If a medical man had any doubts as to the circumstances in which any particular institutions had been formed he should make the fullest and most thorough inquiry so as to satisfy himself before he accepted an office that he could hold it without bringing any just professional disapproval upon himself. Mr. Hempson went on to say that he would now proceed to deal with the case which affected Mr. Chatterjee. The charge was in three parts. The first was concerned with his acceptance of a post in connexion with the South Moor Medical Association with the knowledge that that association had canvassed for patients; the second was that Mr. Chatterjee had by speaking in the South Moor district sought to attach patients to himself; and the third was that he knew during the year 1913 that he was being advertised, and yet he continued to hold the appointment. So far as he knew there was no evidence that Mr. Chatterjee proposed to do anything but hold the appointment. The association was formed early last year for the purpose of obtaining for workmen medical attendance at a reduced rate which, he believed, was to be 6*d*. instead of 9*d*. There was not the slightest doubt that taking all the evidence together there was a wide canvass in order to advertise the formation of this association. A circular or notice had been distributed. Mr. Chatterjee accepted the post of medical man under this association. He also went on the panel, and he (Mr. Hempson) was instructed that the amounts he received as a panel practitioner were to be credited in aid of the salary of £350, which was to be given to him. That was an extraordinary position from the point of view of the medical profession. It was also stated that later on there had been a distribution of transfer forms. Mr. Chatterjee's answer to the whole case was that he did not know that there was anything going on in the nature of canvassing. It was also the case that he had addressed two meetings. At one of the meetings he had given particulars as to what his past had been, where he had qualified, and with whom he had served. He went on to say that he was inferior in no way to any man in the locality.

Dr. JOHN CHARLES, of Stanley, was then called as a witness. In his declaration he stated that he had been in practice in the district for 18 years. Since the Insurance Act came into operation there had been an acute difference in the district, and the object of the South Moor Medical Association was to get medical attendance at a reduced rate, and workmen were asked to give it their support. A form or circular was sent out notifying the formation of the new association. Two medical men were advertised for, and Mr. Chatterjee was one of those appointed. The two meetings which Mr. Chatterjee attended were reported in the press. Posters were placed at the pithead intimating the hours of Mr. Chatterjee. In this way the existence of the association was kept before the workmen.

Cross-examined by Mr. STEWART, Dr. CHARLES admitted that anonymous letters had appeared in the local press commenting on the association and its doctors. He admitted further that he had written one.

It was a letter attacking the doctor that was coming?—No.

What was it then?—It was advice to the miners to take a broad view of the position and see it according to their trade union principles.

Had not Mr. Chatterjee's speech reference to that letter? If the speech is read properly is it not a reply to it?—Not at all. The letter was brought up because it condemned the policy of the association.

What you say were posters, were they not merely cards intimating the hours?—I say posters or cards.

Mr. HEMPSON then put in the joint statutory declaration of Mr. William Arthur Benson and Mr. Reginald Edward Ingram-Johnson, registered medical practitioners.

HENRY PEART, miner, South Moor, then gave evidence. In his declaration he stated that when the Insurance Act came into operation there was an agitation to reduce the fortnightly deductions at the colliery from 9*d*. to 6*d*. A large number of workmen were induced to take Mr. Chatterjee rather than the old practitionors.

Mr. STEWART (cross-examining): Was not the circular issued before Mr. Chatterjee came to the neighbourhood?—Yes.

What do you mean by saying that a circular was issued by the local lodge in support of Mr. Chatterjee?—It was in support of Mr. Chatterjee or anyone else who might come.

Then Mr. Chatterjee was never thought of then? There was no association then?—No, the idea was to form an association.

And Mr. Chatterjee did not come until the association was formed?—No; he did not come until it was formed.

The PRESIDENT: Can you tell us how long before he came it was that the circular was issued?

WITNESS: About a month.

Do you know of any canvassing after Mr. Chatterjee came?—No; not after he came.

In answer to further questions put by the PRESIDENT witness stated that formerly 9*d*. had been deducted from the miners' wages every fortnight. It was devoted to paying medical attendance on the miner and his family. After the Insurance Act the miner for his insurance contributions got medical attendance for himself. The 6*d*. was offered for attendance on his wife and family who were not insured.

Replying to the PRESIDENT, Mr. HEMPSON said that Mr. Chatterjee went to South Moor on April 2nd, 1913.

Some further evidence was called in support of the complaint.

Mr. STEWART addressed the Council on behalf of Mr. Chatterjee. He said that when the National Insurance Act came into operation many of the miners who had been in the habit of paying 9*d*. a fortnight for medical attendance on themselves, their wives, and families, came to the conclusion that they ought to obtain a reduction of the contribution. They reckoned that the medical man would get 6*s*. 6*d*. each a year for perhaps two insured members of the family, and drugs would also be supplied to them. They considered that this would mean a very considerable addition to the fees of the local medical men. The miners thought that they themselves should get the benefit of 3*d*. a fortnight. The medical men were approached, but they had objections to anything of that sort. When the medical men would not agree to their proposals the miners came to the decision that the deduction of 6*d*. from their wages should cease. The management of the mines declined to do this until they had the signatures of the miners on slips directing the deduction to cease. That was one step in the miners' negotiations with the doctors. They thought that then they would be in a position to negotiate for a lesser fee. The miners then set collectors to collect the sixpence. The sum collected in this way soon went away in providing medical attendance. It was then thought that they should invite a medical man into the district to serve them for the sixpenny rate. All this took place before the association was formed. When they found that there was sufficient to guarantee a salary to a medical man they advertised for one. Mr. Chatterjee applied and took up the appointment on April 2nd, 1913. He could not have had any idea what had gone on in the past. He told the committee of the association that there must be no canvassing. The association were to make no profit out of the arrangement. Now as to the meetings which were held some days after Mr. Chatterjee came to the district, the Council already was informed that there was a very strong agitation in the locality, and considerable prominence had been given to it in the local papers. Some very harsh things were being said, and the Council had already heard from Dr. Charles of his letter to the press. If Mr. Chatterjee's speech was read it would be seen that he was replying to it. He went to speak at what he believed were meetings of his subscribers. There was no evidence before the Council that there were anyone but subscribers there except some reporters. Mr. Chatterjee's statements about his qualifications and where he got them from were made to contradict statements which were flying about all over the district. Taken in view of the circumstances everyone could see that it was natural that Mr. Chatterjee should defend

himself. As he thought that he was addressing his own subscribers he let himself perhaps go further than he would otherwise have done. He denied that advertising was going on and that he acquiesced in it. The evidence before the Council was not sufficient to support the charge.

Mr. CHATTERJEE gave evidence in his defence. In the course of his declaration he stated that he found that statements were being made about him, and he replied to the letter at the meeting. He thought that he was then speaking to subscribers. His committee assured him that no canvassing was going on. He told the committee that there must be no canvassing, and he had no reason to believe there was. If any canvassing had taken place it had not his sanction.

Cross-examined by Mr. HEMPSON, Mr. CHATTERJEE said that when he found that a circular had been issued he took steps to find out about it. He found that it had been issued some time before he took the appointment.

Did it occur to you that it was not a proper appointment to hold?—I did not see that the circular had anything to do with any appointment.

What have you received in remuneration?—I have £350 a year, a house, a trap, and drugs.

Are you a doctor on the panel?—I have got panel patients.

How many panel patients have you got?—I have 958 panel patients.

What do you receive in respect of them from the Insurance Committee?—My last cheque was for £27 18*s*.

Was that a monthly cheque?—Yes.

You therefore have from your panel patients approximately £335 a year?—It might come to that.

The amount which you receive on behalf of your panel patients is a credit to the amount which you receive for your salary?—Yes.

Mr. CHATTERJEE went on to say that the drug bill which came to a considerable amount was paid by the association. He was to get an increase of salary as the funds of the association permitted it.

Mr. JOHN REECE, checkweighman, gave evidence regarding the formation of the association. He stated that the circulars or forms were returned before March 21st, and that ended the matter so far as the association was concerned. It was from them that those concerned with the association knew that they had enough money to form it and guarantee a salary to a medical man.

Answering the PRESIDENT, witness said that those directing the association had promised to pay the whole of their fund in salary to their medical man after paying the reasonable expenses of the association. All the surplus was to be handed over to the doctors over and above the stated salary. This year they were guaranteeing £400, and they would also give the whole of the surplus. They paid for house, horse and trap, and for the drugs required for wives and families.

The PRESIDENT: It is not the intention of your association to retain any profit.

WITNESS: No; we have that thoroughly understood.

After the hearing of some further witnesses the evidence was concluded.

The Council adjourned.

THURSDAY, MAY 28TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council considered *in camerâ* the case of Mr. Haripado Chatterjee, evidence in regard to which had been heard at the previous sitting.

The PRESIDENT, in announcing the decision of the Council, said: Mr. Chatterjee, I have to inform you that the Council has carefully considered the facts alleged against you in the notice of inquiry, and has found that the following fact has been proved—viz., that you have by public speaking in the South Moor district and by advertising in such speeches your own qualifications taken a prominent part in inducing and endeavouring to induce persons to join the said association and so to become your patients; but that the Council has suspended judgment till the November session when you will be required to be present and to produce evidence as to your professional conduct in the interval, and as to the methods of the association under which you have accepted employment. All the other facts alleged in the notice of inquiry have not been proved to the satisfaction of the Council.

The Council considered the case of Alexander Girvan, registered as of 8, Palace-street, Buckingham Gate, London, S.W., M.B., C.M. 1894, M.D. 1904, U. Glasg., who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner, you were on Dec. 4th, 1913 (after having elected to be dealt with summarily), convicted at the Westminster police court of unlawfully and wilfully making a certain false declaration under and for the purposes of a certain Act relating to the registration of deaths, and fined £10 and £10 costs.

Dr. Girvan attended. He was represented by Mr. George Elliot, K.C., Mr. H. W. Wickham, and Mr. Arthur Bryan, counsel who were instructed by Messrs. Walton and Hurd, solicitors.

Mr. HARPER, the Council's solicitor, brought to the Council's notice circumstances connected with the conviction. He said that the certificate given by Dr. Girvan in this case showed that the cause of death was primarily appendicitis and secondarily peritonitis and cardiac failure. The patient, however, had to the practitioner's knowledge, it appeared, a miscarriage while in a nursing home, and he had been asked by her not to tell her sister of her condition. The death of the woman in regard to which the certificate was given became the subject of a coroner's inquest. The jury found the cause of death to be heart failure and acute blood poisoning following a wound inflicted while unlawfully procuring abortion. The coroner's jury added to their verdict a rider that they thought the false certificate should be reported to the General Medical Council. Dr. Girvan in his defence said that he had omitted the word "miscarriage" without any improper motive and without intention to deceive, but in order to save the patient's honour. He also said that he did not know that an illegal operation had been performed, and that he had no suspicion that an illegal operation had been performed. There might be cases in which medical certificates did not state the whole cause of death. This case was different from them—a medical practitioner who suspected or ought to suspect that a crime had been committed yet gave a certificate which covered up that fact and prevented attention being drawn to the possibility of crime. It was true that Dr. Girvan had himself reported the matter to the coroner, but only after he had been told by the relatives that they were going to the coroner.

Dr. BERNARD HENRY SPILSBURY was called as a witness and he stated that he had made a post-mortem examination on the body on Oct. 3rd, 1913. He had given evidence at the inquest and again at the magisterial inquiry. There was peritonitis and three wounds. He came to the conclusion that the wounds were caused by the use of some instrument to procure abortion.

In answer to the PRESIDENT, Dr. SPILSBURY said that he thought that before the post-mortem examination the cause of death might have been uncertain. There ought to have been a suspicion as to the possibility of something improper having been done.

Dr. ALEXANDER GIRVAN then gave evidence in his defence. Examined by Mr. George Elliott, K.C., he said that during the 18 years he had been in the medical profession, with the exception of this unfortunate incident, no shadow of reproach or blame had rested on him. He had always upheld the high ideals of the profession in every way. The patient in regard to whom these proceedings had arisen consulted him at his house on August 8th, 1913. She complained of certain pains and told him that she had had an operation for appendicitis. He prescribed for her. She consulted him later. On Sept. 25th she called in the morning when he was out, but he saw her after he returned home. He found that she was in a certain condition. She was very anxious that it should not be discovered. She refused to go into hospital and he sent for a nurse from a nursing home. He had asked her whether she had been illegally treated. She denied it. She denied it again to the nurse. He saw no symptoms to lead him to believe that she had been illegally treated. She was sent to the nursing home where she became worse. The witness described her illness. On the day of her death he was describing the case to a consulting surgeon when the nurse came and said that she had died. He was justified then in thinking that appendicitis had set up peritonitis.

Mr. HARPER: Did you see any reason not to believe the statement of the girl that there had been no illegal operation?

Dr. GIRVAN: I saw no reason to disbelieve her.

Miss EMILY CARTER, a certified nurse, gave evidence as to attending the patient. Dr. Girvan had asked the patient whether she (the patient) had had anything done to her. The patient had said "No." She (Miss Carter) had impressed upon the patient that it was important for her to say whether anything had been done to her, and she denied that there had been.

In answer to the Legal Assessor (Mr. BODKIN), witness said that the patient was very anxious that nothing should be known about her miscarriage, which took place in the nursing home.

Mr. ELLIOTT addressed the Council on behalf of Dr. Girvan. Dr. Girvan, he said, had no desire to go behind his own admissions for a single moment or to attempt to shield himself so far as the omission of the word "miscarriage" or any other words was concerned. All that he desired the Council to do was to ask it to look at all the surrounding circumstances of the case, and to submit to the members whether in view of those surrounding circumstances it was a case calling for any severe or harsh decision. In similar circumstances he would not dream of acting again as he had in this case. Dr. Girvan was undoubtedly moved by his promise to this girl to shield from the knowledge of the family all the facts of her being in the condition in which he discovered she was, with a view to protecting her honour and reputation. He could only leave the case to the merciful consideration of the Council. It could not come to the conclusion that he had been actuated by improper motives. The circumstances should certainly call for the lenity of the Council.

The PRESIDENT, in announcing the decision of the Council, said: Mr. Alexander Girvan, I have to inform you that the Council has found your conviction for the misdemeanour alleged against you in the notice to have been proved; that the Council takes the gravest view of the offence of which you have been convicted; but that, having regard to the punishment which you have already received, the Council has suspended its judgment until the November session, when you will be required to attend and to produce evidence from medical men and others that in the interval your professional conduct has been without reproach.

The Council then considered the report of the Dental Committee on the case of Valleck Cartwright Mallan. The committee found that the following facts were established by the evidence:—

The said Valleck Cartwright Mallan was registered in the Dentists Register on Dec. 6th, 1878, as "In practice on July 22nd, 1878," and his address in the Register for the current year is 106, Edgware-road, London, W.

The said Valleck Cartwright Mallan practises at 106, Edgware-road, aforesaid, and issues and distributes as widely as he can a card and an explanatory pamphlet advertising his practice. The card contains a number of illustrations of American plateless teeth; the pamphlet enlarges upon the advantages of consulting the said V. C. Mallan and contains a photographic reproduction of a newspaper paragraph on the long-standing reputation of the said V. C. Mallan and his family since the beginning of the nineteenth century. The said V. C. Mallan stated that the paragraph appeared in the *Catholic Times*, and was not an advertisement, although he advertises in that paper. The complainants also submitted a two-column article which had appeared in the *Hampstead Advertiser* of July 17th, 1913, containing a portrait of the said V. C. Mallan, and a photograph of a challenge cup which he had presented in connexion with local cricket. The said article contained a lengthy and puffing description of the said V. C. Mallan as a dentist as well as a public man interested in the public affairs of Marylebone. The complainants did not offer any proof that the said V. C. Mallan was responsible for this article, but he admitted in answer to questions that he had been interviewed by the *Hampstead Advertiser* and had given the information, some of which was untrue, therein contained, that although he had not paid for it he had subscribed for 100 copies which he had sent out to various people, and that he had in fact used the article as an advertisement for his practice.

At the conclusion of the inquiry before the Dental Committee the said V. C. Mallan offered to give an undertaking that in future he would not advertise in any form of which the Council disapproved.

The complainants, the British Dental Association, were represented by Mr. R. W. Turner, counsel instructed by Messrs. Bowman and Curtis-Hayward, solicitors.

Mr. MALLAN, who attended, addressed the Council and complained of the methods adopted by unregistered dentists to advertise their business. He repeated his assurances that he would not advertise in future in any form of which the Council disapproved.

The PRESIDENT announced the decision of the Council as follows:—Mr. Mallan: The Council have considered the report of the Dental Committee in regard to the facts proved against you, and they have considered the undertaking which you have given that in future you will not advertise in any form of which the Council disapproves. The Council has deferred the further consideration of your case to the November session, when you will be required to be present and to produce satisfactory evidence as to your conduct in the interval, with particular reference to the manner in which you have carried out the undertaking regarding advertising which you have given to the Council.

The Council considered a report of the Dental Committee in regard to the case of John Winter. In their report the committee found that the following facts were established by the evidence:—

The said John Winter was registered in the Dentists Register on January 18th, 1883, as "In practice on July 22, 1878." and his address in the Register for the current year is 26, West Parade, Lincoln.

The said John Winter practises at 26, West Parade, Lincoln, and resides at High-street, Mablethorpe, Lincolnshire, where he also practises. He has a son, J. G. Winter, who resides at 26, West Parade, Lincoln, and there practises dentistry in the same premises as his father, but he is not on the Dentists Register. The said J. G. Winter practises in the name of his father, and the said John Winter covers the practice of his son.

Advertisements of the practice of "J. Winter" appear in the local press both at Lincoln and at Mablethorpe. A circular in the name of J. Winter, giving the Lincoln address, was handed to a patient at the Lincoln consulting room, who was being treated by J. G. Winter in the name of the said John Winter. The name of J. G. Winter nowhere appears except on a brass plate affixed to the wall of the Lincoln premises.

The complainants were the British Dental Association, who were represented by Mr. R. W. Turner, counsel.

Mr. Winter did not attend.

The PRESIDENT, addressing Mr. Turner, announced the decision of the Council as follows: I have to announce to you that on the facts found in the report of the Dental Committee it has been proved that John Winter has been guilty of infamous and disgraceful conduct in a professional respect, and that the Registrar has been directed to erase from the Dentists Register the name of John Winter."

The Council considered the report of the Dental Committee on the case of John William Whitehead.

In the report the committee found that the following facts were established by the evidence:—

The said John William Whitehead was registered in the Dentists Register on Sept. 13th, 1878, as "In practice on July 22nd, 1878," and his address in the Register for the current year is 10, Bellevue-street, Burnley.

The said John William Whitehead was convicted as follows: On May 14th, 1904, at Church, Lancashire, of unlawfully laying a certain pipe to communicate with another pipe belonging to the urban district council of Oswaldtwistle without their consent, contrary to the provisions of the Gasworks Clauses Acts, 1847, and was fined £1 and £1 2*s.* costs, or 14 days. (Note.—This offence, in non-technical language, consists in tapping the gas main of the local authority and stealing the gas.) On Jan. 22nd, 1906, at Blackburn, Lancashire, of feloniously stealing 13 books, the property of the borough of Blackburn, and was sentenced to one month's hard labour. On Feb. 24th, 1906, at Accrington, Lancashire, of feloniously stealing three books, the property of the borough of Accrington, and was sentenced to one month's hard labour.

At the end of 1904 the name of the said John William Whitehead had been erased from the Dentists Register under Section 12 of the Dentists Act. He applied in 1912 for restoration. The Executive Committee was advised that this request should be complied with, but the Registrar was directed to inform the said John William Whitehead that in the event of restoration an inquiry would be held in regard to the convictions. Notwithstanding this intimation he renewed his application and his name was restored.

The Registrar then wrote several times to the accused for an explanation of his conduct, and eventually received the following:—

"10, Bellevue-street, Burnley,
March 18th, 1914.

(No. 35851).

To the REGISTRAR, GENERAL MEDICAL COUNCIL.

RESPECTED SIR,—With reference to the convictions mentioned in your letter bearing the above number, I regret to say that I have no explanation to offer, only that I am very sorry, and if the Council can see fit to excuse me this time I shall ever feel thankful to them, and promise that no similar offence shall occur again.

Believe me to be, yours humbly and faithfully,
J. W. WHITEHEAD."

The said John William Whitehead has therefore furnished no satisfactory explanation of his convictions, nor has he offered any evidence of his conduct since 1906.

Under Section 13 of the Dentists Act, any person who has either before or after he is registered been convicted of a felony or misdemeanour shall be liable to have his name erased from the Register, provided that the name shall not be erased "on account of a conviction for an offence which does not either from the trivial nature of the offence or from the circumstances under which it was committed disqualify a person for practising dentistry."

The misdemeanour and felonies in respect of which the said John William Whitehead was convicted can be considered by the Council as sufficient to entitle the Council to erase his name from the Register.

Mr. Whitehead did not attend.

The PRESIDENT announced the decision of the Council to Mr. Harper, the Council's solicitor, as follows: I have to tell you that John William Whitehead having been proved to have been guilty of the two felonies and the misdemeanour set forth in the report of the Dental Committee, the Registrar has been directed to erase from the Dentists Register the name of John William Whitehead.

The Council proceeded to the consideration of the case of William Samuel Daroux, registered as of Station-road, Stanley, co. Durham, L.A.H. Dub. 1910, L.R.C.S. Irel. 1911, who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you, in the year 1913, accepted the post of medical officer of an association known as the Stanley and District Workers' Medical Association in the knowledge that such association had through its officials, by widely distributed circulars, by personal canvassing, and by solicitation of members of the miners' union in the Stanley district, sought to secure members of such association who, on joining it, would become the patients of the medical officer thereof. And that throughout the year 1913, knowing that you were being advertised in the Stanley district as the doctor of the said association, you acquiesced in such advertising and continued to be employed as its medical officer. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

Mr. Daroux attended, and was accompanied by Mr. R. Strother Stewart, solicitor.

The complainants, who were the British Medical Association, were represented by Mr. W. E. Hempson, solicitor.

When the Council's solicitor had read the notice,

Mr. HEMPSON said that Mr. Daroux had severed his connexion with the association mentioned in the notice and he was no longer its medical officer. Mr. Daroux had recognised his position as untenable. In these circumstances he (Mr. Hempson) wished to withdraw the case.

Mr. STEWART said that he took exception to this statement in so far as it was contended that Mr. Daroux's position was untenable. Mr. Daroux had severed his connexion with the association and had no intention of renewing it. But he did not admit that there had been canvassing as alleged in the charge. He was, subject to this being understood, ready to assent to the withdrawal of the charge.

After deliberation *in camera* the PRESIDENT said: The Council has considered the application of Mr. Hempson to withdraw the complaint and the charges made thereunder against Mr. Daroux and has assented to the application.

The Council adjourned.

FRIDAY, MAY 29TH.

The Council resumed its sittings at its offices, 299, Oxford-street. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council considered the case of William Blaikie Mason, registered as of 218, Somers-road, Southsea, M.R.C.S. Eng. 1893, L.R.C.P. Lond. 1893, who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you on Nov. 1st, 1913, signed a certificate that one Patrick Matthews, of 46, Raglan-street, Southsea, was suffering from gastric colic and was unable to follow his occupation, whereas you had neither seen nor examined the said Patrick Matthews, which said certificate was untrue, misleading, or improper. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Lords Commissioners of the Admiralty, who were represented by Mr. C. R. Brigstocke.

Mr. Mason attended in person.

Mr. BRIGSTOCKE said that what he wanted to bring before the Council was this. At naval ports men were given short periods of leave. Since the fleet was concentrated in the home waters the practice prevailed far more than formerly. The men were inclined to outstay their leave. Matthews went on shore and was not heard of for two days. A certificate then arrived stating that he was unable to follow his occupation. The authorities ascertained later that Mr. Mason had not seen the man before he granted the certificate. They felt that they had no check over men if they could procure certificates from medical men without being seen by those medical men. If they could not rely upon the certificates they were helpless. Mr. Mason had frankly admitted that he had not seen the man. The Admiralty had no desire to press the case personally against Mr. Mason, and their only object was to stop a practice under which such a thing could be possible.

Mr. MASON, addressing the Council on his own behalf, regretted that he had been led into granting the certificate. He had had no idea at the time that he was doing wrong. The circumstances under which he had given the certificate were these. The landlady of the man came to him and described the symptoms of the man's condition. He had formerly attended the man, and from what the landlady said he had no doubt that the man was suffering in the same way again. He gave him medicine. Afterwards the landlady, whom he knew as a respectable woman, returned and said that the man must have a certificate as he was not fit to go on board his ship in the morning. Without thinking he gave her the certificate. The certificate might be supposed to convey that he had seen the man. He was very sorry that he had given it. He would appeal to the Council not to take any further action against him. He realised now that he had done something wrong, and he promised that in the future he would not do it again. He made an unconditional promise never to give a certificate without seeing the person.

The PRESIDENT announced the decision of the Council as follows: Mr. William Blaikie Mason, I have to inform you that the Council has found that the facts alleged against you in the notice of inquiry have been proved; that the Council takes a very serious view indeed of the gravity of the matter; and that it has already marked its sense of the gravity of such offences by issuing in the medical journals and elsewhere in November, 1911, a warning notice as follows:—

Whereas registered medical practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates signed by them in their professional capacity, for subsequent use either in courts of justice or for administrative purposes. And whereas such certificates include, *amongst others*:—

Certificates: (*a*) Under any statute relating to births, deaths, or disposal of the dead; (*b*) under the Lunacy Acts; (*c*) under the Vaccination Acts; (*d*) under the Factory Acts; (*e*) in relation to children or to excusing school attendance; (*f*) in connexion with sick benefit, insurance, and friendly societies; (*g*) in connexion with workmen's compensation; (*h*) in connexion with naval or merchant shipping; (*i*) for procuring the issue of Foreign Office passports; (*j*) for excusing attendance in courts of justice, in the public services, in public offices, or at ordinary employments.

And whereas it has been made to appear to the General Council from time to time that some registered medical practitioners have given and signed untrue, misleading, or improper certificates of the above specified or other descriptions.

Now, therefore, the General Medical Council hereby give notice that any registered medical practitioner who shall be shown to have given any untrue, misleading, or improper certificate, *whether relating to the several matters above specified or otherwise*, is liable to be adjudged by them to be guilty of "infamous conduct in a professional respect" and to have his name erased from the Medical Register under Section 29 of the Medical Act, 1858.

In order to give you an opportunity to prove to the Council that you realise the gravity of your offence, and to produce evidence from your professional brethren regarding your character and conduct generally, the Council has postponed judgment till the November session, when you will be required to produce testimony to the effect above specified and to your conduct in the interval.

The PRESIDENT then informed Mr. Brigstocke that he would have an opportunity of appearing before the Council in November, when he could produce any further evidence in regard to Mr. Mason's conduct in the interval which the Lords Commissioners of the Admiralty might think fit. He also requested Mr. Brigstocke to convey to the Lords Commissioners the thanks of the Council for bringing the case to its notice, and for allowing him to be present to conduct it.

The Council considered the case of Michael Joseph Ryan, registered as of 106, Newport-street, Bolton, L.R.C.S. Irel. 1885, L., L.M. 1886, K.Q.C.P. Irel., who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you were at the assizes held at Manchester and commencing on Nov. 17th, 1913, convicted of unlawfully making false certificates purporting to be made under the Births and Deaths Registration Act, 1874, knowing same to be false, and sentenced to six months' imprisonment in the second division.

Mr. Ryan attended in person.

Mr. HARPER, the Council's solicitor, stated that Mr. Ryan had written out these false certificates on official forms.

Mr. RYAN addressed the Council on his own behalf.

The PRESIDENT announced the decision of the Council as follows:—Mr. Ryan: I have to inform you that you have been proved to have been convicted of the misdemeanour alleged against you in the notice of inquiry, and that the Registrar has been directed to erase your name from the Medical Register.

The Council then considered the case of William Young, registered as of 13, Elliott-terrace, Usworth, Durham, M.B., Ch.B., 1902, U. Edin., who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you, in the year 1913, accepted the post of workmen's doctor for Usworth Colliery, Durham, in the knowledge that a number of the members of the Miners' Union had been canvassed in your interest by the officials of the local branch of the said union at Usworth with a view to their becoming your patients, and that you having been appointed such doctor for the Usworth Colliery miners knowingly exhibited and caused and permitted to be exhibited at Usworth Colliery and at Washington Colliery notices signed by you inviting and soliciting persons to become your patients; and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants, the British Medical Association, were represented by Mr. W. E. Hempson, solicitor.

Mr. Young attended and was represented by Mr. P. Lloyd-Graeme, counsel instructed by Messrs. Rawle Johnstone and Co., solicitors acting for Messrs. Newlands and Newlands, Newcastle-on-Tyne.

Mr. HEMPSON stated that Mr. Young took up his appointment in May, 1913. A number of notices in regard to which the complaint was made emanated about October or November. Some notices were issued in public places where miners and others had an opportunity of reading them and therefore had an opportunity of becoming the patients of Mr. Young.

Dr. WILLIAM JAQUES, Naworth House, Washington, was the first witness. In his statutory declaration he stated that previous to January, 1913, deductions were made from the pay of miners at the rate of 9*d*. per fortnight for medical attendance to themselves and family. The miners' representatives after the Insurance Act came into operation wanted the rate to be reduced to 6*d*. The practitioners affected refused to accept the lower sum. No agreement was arrived at, and he was informed that the workmen were urged not to pay at the old rate. In April, 1913, a ballot was taken at the Usworth Colliery. The majority of the miners decided that the contribution should be reduced from 9*d*. to 6*d*., and a new doctor was advertised for at a salary of £375. Mr. Young was appointed. He understood that over 600 names were put on his list. In his (Dr. Jaques's) opinion such a large number of patients could not have been obtained without canvassing. On the revision of the lists of panel patients in October, 1913, he was informed that various steps had been taken to urge workmen to sign these forms in favour of Mr. Young. A circular in regard to the Insurance Act was sent out by the miners' committee. It mentioned Mr. Young's ability and attention, and it said that the workmen now had a doctor of their own who was entitled to their loyal support. They were urged not to let the opportunity to transfer slip, because it would be 12 months before they had another. The circular was signed by W. P. Richardson on behalf of the committee.

Cross-examined by Mr. LLOYD-GRAEME, Dr. JAQUES admitted that the miners were accustomed frequently to take joint action through their trade union. He admitted also that perhaps three-quarters of the miners at Usworth village had been patients of his. He did not know that Mr. Young's appointment was approved by a meeting of the miners' lodge.

You do not wish to say that a large number of those who voted for a doctor would not naturally wish to employ the doctor who was appointed?—That would depend.

DANIEL HAMILTON, miner, Washington, stated that he had seen a notice in the miners' hall telling workmen who wanted Mr. Young to attend them what to do.

Mr. HEMPSON: Is there any doubt that these were signed by Mr. Young?

Mr. LLOYD-GRAEME: I admit that.

Several other witnesses were called and examined.

The Council then adjourned.

SATURDAY, MAY 30TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Complaint Against Practitioner Dismissed.

Consideration was resumed of the complaint against Mr. William Young, M.B., Ch.B., the hearing of which was commenced on the previous day. The case for the defence of the practitioner was taken.

Mr. W. P. RICHARDSON, secretary to the Usworth branch of the Durham Miners' Association (examined by Mr. LLOYD-GRAEME), explained the demand on the part of the miners for a reduction of their fortnightly contributions from 9*d*. to 6*d*. A circular and a ballot paper were sent out in order to test the support which would be given for the employment of another medical man. There was no intimidation to compel the men to vote one way or other. 700 or 800 voted for it and 50 against. After the result of the ballot he was instructed to advertise for a doctor at a salary of £375 a year plus maternity fees. There were 14 applications for the post. Mr. Young was appointed, and a large number of the men at Usworth colliery took him for their doctor.

Have you ever exercised any compulsion on the men to take Mr. Young?—No.

Witness went on to say that the agreement with Mr. Young had nothing to do with the Insurance Act. He was to have the £375 for attending the wives and families of the men.

The PRESIDENT: That amount had nothing to do with the amount of his insurance money?—Nothing to do with it.

If he had 500 panel patients he would get paid out of the insurance funds for them, and he would get £375 over and above for the wives and children.—That is so.

Further examined by Mr. LLOYD-GRAEME, witness said that the circular which he signed was issued in view of the inquiries of members at the lodge meeting when the change of doctor was to take place. He was instructed to get it printed.

Did you ever show a copy to Mr. Young?—Never.

Did you ever discuss with Mr. Young what was to be put into this circular?—No.

Did you ever tell Mr. Young that such a circular was to go out?—No.

Throughout the whole of this transaction has your lodge acted in the way it usually acts as to its business?—Yes.

Have you ever heard Mr. Young canvass? Have you ever seen him ask any person to become his patient?—No.

Cross-examined by Mr. HEMPSON, witness said that the £375 was to cover attendance to wives and families, and to cover what the men would not get as panel patients. It was to cover such things as compensation notes or certificates, which the men did not receive as panel patients under the Insurance Act. They wanted these particular services for an inclusive fee.

JOHN CURRAN, of Washington, stated that numerous inquiries had been made at Washington how people could take Mr. Young as their doctor.

J. G. FLETCHER, miner, Usworth, also stated that inquiries were made by the Washington men how they could obtain Mr. Young's services. Mr. Young on being approached declined to go to a meeting and address it. He asked Mr. Young to give him something in writing to show what the Washington men would have to do to obtain his services. Mr. Young wrote something at his request.

Mr. WILLIAM YOUNG then gave evidence on his own behalf. Before he went to Usworth he knew nothing of the ballot. He knew nothing at all about the drawing up of the circular about the insurance in October, 1913, in which his name came in several times. He did not at the time know that any circular had been sent out.

Mr. LLOYD-GRAEME: Have you ever been asked by Washington men whether it would be possible for you to attend them?—Yes.

Witness went on to say that he had declined Fletcher's request that he should address the Washington men. That would have been too much like canvassing and puffing himself. Fletcher had afterwards said that he wanted something from him to show them as to how they could go about having him for their doctor. He admitted giving Fletcher the notices, but he intended merely to let those men who wanted to come to him know how to do so. He did not intend in any way to canvass. He had never attempted to get patients away from another doctor.

Cross-examined by Mr. HEMPSON, Mr. YOUNG denied that he had any intention that the notices he had given to Fletcher should be put up in public.

In answer to the PRESIDENT, Mr. YOUNG said that when the insurance circular of October came to his notice he secured the 500 or 600 which had not been issued and had torn them into small pieces.

Mr. LLOYD GRAEME and Mr. HEMPSON reviewed the evidence.

The PRESIDENT, in announcing the decision of the Council, said: Mr. William Young, I have to inform you that the facts alleged in the notice of inquiry have not been proved to the satisfaction of the Council, and the complaint is accordingly dismissed.

The Council adjourned.

MONDAY, JUNE 1ST.

The General Medical Council resumed its sittings at its offices, 299, Oxford-street, W., the President, Sir DONALD MACALISTER, in the chair.

Penal Cases.

The Council considered the case of Edward Nangle Smartt, registered as of Leven, Hull, L.R.C.S. Irel. 1884, L.K.Q.C.P. Irel. 1886, who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you have sought to attract to yourself patients by canvassing in person and by an agent for subscribers to a private medical club instituted by you, and by sending out to persons who were not your patients a printed circular letter signed by you offering your services in connexion with such club, and intimating that your secretary would call on the recipient. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the British Medical Association, represented by Mr. W. E. Hempson, solicitor.

Mr. Smartt attended and was represented by Mr. H. Dobb, counsel instructed by Messrs. Petch and Co. (for Messrs. Crust, Todd, Mills, and Sons, Beverley).

Mr. HEMPSON said that prior to the National Insurance Act Mr. Smartt had acted as medical man to certain local clubs. These owing to the Act coming into operation were disbanded, but there were in connexion with these clubs certain classes of persons who did not get the benefit of the Insurance Act. Mr. Smartt, it appeared, was approached by the representatives of these people and asked to form a private medical club, and a circular had been sent out in connexion with the matter. Mr. Smartt now regretted that by an error of judgment he had caused his fellow practitioners annoyance. If that was still his attitude the British Medical Association had no desire to press the matter harshly.

Mr. SMARTT, giving evidence on his own behalf, said that a large proportion of his practice had been with clubs, and there had been no complaint against him. He had been on the best of terms with his fellow practitioners. When the Insurance Act came into operation he was approached by the secretaries of the clubs and also by members in regard to the difficult position in which the uninsured members found themselves. A suggestion was made that a private club should be formed to take these uninsured members. He consented to assist in forming it, and he was partly responsible for drafting the circular. The other persons responsible were the secretaries of the clubs. The object of the circular was to intimate to the uninsured members of the clubs that they would be provided for as a whole. He got lists of the uninsured members of the four clubs of which he had been the doctor. He had only sent out the circular to the people in those lists. They were all members of the clubs to which he was the medical attendant. He found them all in his books. He expressed regret that he had caused his fellow practitioners so much annoyance. He was getting in all the circulars which he could recover.

Mr. DOBB suggested that in view of Mr. Smartt's statement the complaint should be withdrawn by Mr. Hempson.

Mr. HEMPSON: I think I should leave it to the Council.

Mr. BODKIN (the legal assessor): You do not dispute the frankness of Mr. Smartt's attitude?

Mr. HEMPSON: Not in the slightest.

The PRESIDENT, in announcing the decision of the Council said: Mr. Smartt, I have to inform you that the Council have found that the facts alleged against you in the notice of inquiry have been proved to their satisfaction, but they have considered the explanations and apologies you have offered as coming in good faith, and accordingly they have not seen fit to direct the Registrar to erase your name from the Medical Register.

The Council considered the case of Caspar Denis Downing, registered as of 47, Mount Pleasant-square, Ranelagh, Dublin, L.A.H. Dub. 1912, who had been summoned to appear before the Council on the following charge:—

That being a registered medical practitioner you were convicted: On Feb. 22nd, 1913, at the city police-court, Liverpool, of being guilty while drunk of disorderly behaviour in Windsor-street, Liverpool; (2) on August 2nd, 1913, at the city police-court, Liverpool, of being guilty while drunk of disorderly behaviour in Boundary-street, Liverpool; and (3) on Dec. 13th, 1913, at the Inns-quay police-court, Dublin, of being found drunk in a highway.

Mr. Downing did not attend.

Mr. HARPER, the Council's solicitor, read letters from the practitioner to the effect that he had been suffering from depression at the times the offences were committed. He had never been in practice in either Liverpool or Dublin. He had now an appointment in the extreme West of Ireland.

The PRESIDENT, in announcing the decision of the Council, said: I have to state that the Council have found that the convictions alleged against Mr. Caspar Denis Downing in the notice of inquiry have been proved to their satisfaction, but the Council have postponed announcing judgment on these convictions until November next, when Mr. Downing will be required to attend in person and to produce satisfactory evidence of his conduct in the interval.

Midwives (Scotland) Bill.

The Council received *in camerâ* a report from the Executive Committee on the Midwives (Scotland) Bill.

When the sitting was resumed in public

The PRESIDENT said: The Council has considered the Midwives (Scotland) Bill, and I am asked to communicate to the Lord President of the Privy Council the following resolution:—

That the General Medical Council expresses its approval of the Bill and trusts that it will be passed into law in the current session.

Service Examinations.

Certain reports were presented by Sir CHARLES BALL from the Examination Committee. One of these dealt with the returns as to the examinations for the services. It set out that 25 commissions were offered in the Naval Medical Service in March, 1914. 24 candidates competed, 17 of whom passed, and 7 were rejected—4 in medicine, 2 in surgery, and 1 in both medicine and surgery. The Royal Army Medical Corps offered 12 commissions in January, 1914. 42 candidates entered for the examination, but only 34 competed. All qualified and 12 passed for vacancies. 12 commissions, afterwards increased to 20, were offered for competition in the Indian Medical Service in January, 1914. 22 candidates entered for examination, all qualified, and 20 passed for vacancies. The committee was glad to note the small number of rejections and the absence of any unfavourable criticisms on the general education of the candidates. There still appeared to be a serious shortage in the number of candidates for commissions in the Royal Navy.

Military Assistant Surgeons in India.

Sir CHARLES BALL presented a report from the Examination Committee on military assistant surgeons in India and Indian certificates. It was stated in the report that the military assistant surgeons formed a class which had undergone a modified medical training for a period of four years in one of the Indian colleges. The Council had permitted the recognition of this course under certain conditions as equivalent to three years of study in this country, but they had not sanctioned the acceptance of the preliminary and professional examinations connected with it. Sir Charles Ball went on to explain that certain communications had taken place with the Indian authorities, and two requisitions had now been made by the Indian Government. The one was that they recommended that the form of the certificate should be altered in certain ways, and the persons who certified that the certificates were granted should be altered to some extent. To these recommendations the committee gave unqualified approval. There were certain suggestions made by the Indian Government particularly as to certificates in preliminary education given by some of the colleges in India for which the Indian Government would be responsible, and they expressed the hope that these would be received so as to enable candidates who had passed them on commencing their professional studies over here to obtain admission to the Register. The conditions which had been laid down in a recommendation were that the examination in preliminary education of an Indian student should be of the character that would be accepted by the Indian universities for a similar purpose—those universities which were capable of granting a qualification

capable of registration in the Colonial List. The committee thought that it would be extremely unwise to accord recognition to an examination held in India so as to admit a man to medical studies in this country, and the same examination was not recognised in India as admitting to study for a registered qualification there. The committee thought, therefore, that these examinations sanctioned by the Government of India should be also of a standard such as would be accepted by the Indian universities granting registrable diplomas.

The report was adopted and the Registrar was instructed to transmit it to the India Office.

Inspection of Examinations.

Dr. MACKAY presented the following report by the Education and Examination Committees acting conjointly in regard to the inspection of examinations :—

The Examination Committee and the Education Committee acting conjointly advise the Council to commence in the year 1915 a cycle of inspection of the qualifying examination held by the several licensing bodies in the United Kingdom.

They also recommend that members of the Council should be appointed to act as visitors.

Dr. Mackay said that it was the statutory duty of the Council to make an inspection of the qualifying examination of licensing bodies. It was practically ten years since the last cycle was undertaken. In the interval several new bodies had sprung into existence and they had not been inspected. From that point of view it would be the duty of the Council to undertake an inspection. It was necessarily a process which involved a certain amount of expenditure, but that could not be avoided if the Council was to perform its duties. The committees were of opinion that examiners were after all mortal, and it might be that there would be inspectors whose opinion would be dissented from by the examined body. It was therefore desirable that the Council should be represented and have an independent opinion. The visitors would be members of the Council who would be particularly qualified by training and experience to give the Council the benefit of their experience.

Sir CHARLES BALL then moved :—

That it be delegated to the Executive Committee to make all the necessary arrangements for the inspection and visitation of qualifying examinations directed to begin in 1915, and to nominate to the Council at its November meeting suitable persons to be inspectors.

Dr. NORMAN MOORE seconded.

The motion was agreed to.

Recognition of Indian Preliminary Examinations.

Dr. MACKAY submitted a report of the Education Committee upon the recognition of certain preliminary examinations in India. He said that four of the universities of India required of their students that after passing the matriculation examination they should engage in further study in subjects of general knowledge for one or two years. There was usually additional study in English. The University of Calcutta did not adopt this system. If the Council were to accept the matriculation of Calcutta as absolutely sufficient they would be accepting an examination which would not be accepted by four of the Indian Universities. The Universities required the Calcutta matriculation examination to be supplemented by the intermediate examination or the preliminary scientific examination of the University. It was the usual practice of the General Medical Council to recognise only those examinations conducted by universities which the universities themselves accepted as sufficient for their own degrees; and the committee would therefore recommend that no Indian examination should be recognised as sufficient by the licensing bodies in this country which was not accepted as such by all the Indian universities. The committee would further recommend that in the case of students in the Indian universities, study in chemistry, physics, and biology carried out within the colleges of these universities subsequent to the passing of the matriculation examination, although prior to the completion of the additional examination required by the Council, be recognised as part of the medical curriculum.

The report was adopted.

Report of the Pharmacopœia Committee.

The Pharmacopœia Committee in their report stated that :

From November 18th, 1913, to May 25th, 1914, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 483. The total number of copies sold in the year beginning May 26th, 1913, was 1052, a larger number than in the year preceding. Up to the present time 46,081 copies of the Pharmacopœia and 4525 copies of the Indian and Colonial Addendum have been sold.

A revised proof of the Text and Appendices of the British Pharmacopœia (1914) has now been prepared, and copies of it will be laid before the Council by the chairman. This proof is submitted subject to the typographical and other editorial corrections which may be necessary, and to the addition of an Index. The Committee will presently meet to consider such corrections, &c., and to pass for publication the final draft of the work.

It is suggested that, as in 1898, the Council should now delegate to the Executive Committee the duty of adopting the completed work as The British Pharmacopœia, 1914, of making the statutory arrangements with the Treasury, and of giving the statutory notices of formal publication.

Dr. NORMAN MOORE moved that—

It be delegated to the Executive Committee to receive from the Pharmacopœia Committee the completed draft of the new Pharmacopœia, to adopt it on behalf of the Council as the British Pharmacopœia (1914), to carry out the statutory procedure as to fixing the price at which copies are to be sold, to give the official notices in the gazettes and to make the necessary arrangements preparatory to the issue and publication of the report.

The PRESIDENT said that he had great pleasure in laying on the table a revised proof from the Pharmacopœia Committee. It represented many years of work, but with the assistance of very able editors the committee had secured what it was hoped was quite worthy to take its place as the official medicine book of the empire.

The motion was agreed to.

Students' Registration Committee.

A report on exceptional cases was received from the Students' Registration Committee.

Dr. SAUNDBY drew attention to two applications for registration without further preliminary examination which the committee recommended should be acceded to. These, he said, came from a commander and a sublieutenant in the Royal Navy. It was stated that these gentlemen had passed examinations in all subjects required by the Council except Latin. Why should they be allowed to enter upon a medical course without having taken an examination in Latin?

Dr. MACKAY defended the recommendation of the committee on the ground that both gentlemen were highly educated men, and as such had attained a standard which made them fully competent to undertake a medical curriculum.

Sir JOHN MOORE thought that if an exemption was to be given for such a subject as Latin it should be done formally. He regarded this as the thin end of the wedge. At present he did not think the Council should exempt anyone from a compulsory subject like Latin, and this ought not to be done so long as all the drugs in the Pharmacopœia had Latin names.

Sir W. WHITLA said that the Council must not forget that one of the first things it had to do was to turn out men able to write a prescription in Latin. He thought that these gentlemen might be allowed to commence their medical studies if they undertook to pass an examination in Latin.

Dr. NORMAN MOORE declared that the committee was not attempting to carry out anything behind the back of the Council. It was its duty to decide exceptional cases and not to undertake an educational crusade. These gentlemen had no doubt passed an examination in Latin which did not come up to the standard required by the Council, but they had passed very severe examinations in mathematics and other subjects, and he thought their applications should be acceded to.

The report, including the recommendations that the applications of these two gentleman should be acceded to, was adopted.

Public Health Committee.

Sir JOHN MOORE presented the report of the Public Health Committee. It dealt in the first place with a revised form of warning notice, but this subject had earlier in the day been considered by the Council *in camerâ*. The committee, the report stated, had had before it a communication from the University of Cambridge asking for guidance as to carrying out Rule I. of the Regulations for the Diploma in Public Health. The committee approved the following answer which was sent to the Registrary of the University on Jan. 8th, 1914 :—

Rule I., which has no notes or exceptions attached to it, requires that the curriculum must extend over not less than nine months. The other rules specify courses of particular duration, and clearly indicate

that substitutes are possible, but these substitutes are not meant to shorten the curriculum.

The report contained recommendations to the effect—

(1) That the answer sent to the University of Cambridge as to the precise meaning of Rule I. of the Regulations for the Diploma in Public Health be approved, and used as occasion may arise as a reply to any similar inquiry; and (2) that all examinations conducted for the purpose of conferring the several registrable degrees, diplomas, or certificates in sanitary science, public health, or State medicine, specified in Table G at page lxxv. of the Medical Register should be inspected, and it should be remitted to the Executive Committee to report on the necessary arrangements.

Sir JOHN MOORE said in regard to the latter recommendation that 20 years had elapsed since the diplomas in public health were inspected. Since then many institutions had established diplomas which had never been inspected. This fact made inspection essential. The committee suggested that inspection should extend over three years.

Both recommendations were adopted.

Appointment of General Registrar.

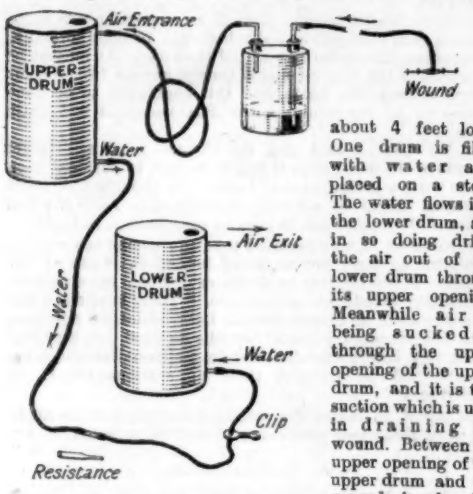
Mr. NORMAN KING was reappointed General Registrar.

A vote of thanks was passed to the President for his services in the chair. The session then concluded, and the Council rose to meet again in November.

New Inventions.

DRAINAGE BY SUCTION.

THE accompanying diagram shows the working of an apparatus which has been found of great value in the treatment of such conditions as suprapubic cystotomy, liver abscess, and empyema thoracis. An absolutely continuous suction can be readily maintained and any cavity which is opened by an operation can be kept empty, while the incision itself remains free from urine, pus, &c. The apparatus itself is easily made and so simple in action that no difficulty is met with. Two drums holding, say, four gallons are taken, and to each are attached two small projecting tubes, one at the top and one at the bottom. Any other openings in the drums are soldered up. The lower projecting tubes of the drums are permanently connected by means of rubber tubing



about 4 feet long. One drum is filled with water and placed on a stool. The water flows into the lower drum, and in so doing drives the air out of the lower drum through its upper opening. Meanwhile air is being sucked in through the upper opening of the upper drum, and it is this suction which is used in draining the wound. Between the upper opening of the upper drum and the wound is placed a "bubbler" in which the pus or urine collects. Whenever the water from the upper drum has completely run out, the drums are reversed. At the same time the suction tube is changed over from one drum to the other, so that it is always attached to the upper opening of whichever drum is uppermost. It is important that all joints should be gas-tight, and this is readily secured by means of soft wax. It is convenient to place a clip on the tube which connects the lower drum openings, so that the flow may be stopped when required. It is also desirable in most cases to place a "resistance" in the lower tube to prevent too rapid a flow. A small glass tube drawn out at one end serves well for this purpose (e.g., a fountain pen filler). For drums I usually employ stout petrol drums. Ordinary kerosine oil tins have also been used and can be procured anywhere in India, &c. These, however, have the disadvantage of being noisy and may startle the patient when changed over, as the alternations of pressure from plus to minus and the reverse cause the sides to bulge or be sucked in, and this movement is sudden and disturbing. It is advisable that the tube which is in the wound should be packed tightly at the time of the operation, and there is seldom any difficulty in preventing air from entering. Usually there is no air entry at this point, and the rate of flow of water from one drum to the other corresponds merely to the rate of flow of urine or pus into the "bubbler." At the worst, even if air freely enters at the wound end, the drum need not be changed oftener than every three or four hours. I always anchor the tube in the wound by means of a suture, one loop being passed through the skin and knotted, a secondary loop being passed through the tube. If a small needle is used the punctures made in the tube give no trouble. When the tube in the wound is changed the secondary loop alone is divided, and the new tube is anchored by means of a suture passed under the primary skin-loop. The amount of suction depends of course on the difference in water level in the drums, and is thus under easy control and can be varied at will. It is often advantageous to have two tubes in the wound, one connected with the "bubbler" and the other for use in periodically irrigating the cavity. This latter is closed with a clip when not in use, and if left long the main dressings need not be disturbed while irrigation is being done.

This method of drainage has been found invaluable in the following conditions. 1. Vesical calculus. Suprapubic lithotomy is robbed of all difficulty in after-treatment. If ordinary care be taken it is perfectly easy to ensure that the wound remains free of urine. No sutures are put in the bladder, but a piece of gauze is usually placed behind the symphysis, and removed after 24 hours. As soon as it is found that the tube is gripped in the wound a smaller tube is used, and in from six to eight days all tubes can be dispensed with. The same of course would apply to prostate operations. The ease with which the after-treatment can be carried out renders suprapubic drainage a justifiable procedure in bad cases of stricture, for after draining in this way for a day or two a catheter should usually pass. 2. Liver abscess (amœbic). In neglected cases where there is a large collection of pus free drainage is, in my opinion, the safest procedure. With suction drainage there is never any fouling from the liver pus, and the wound remains perfectly clean. One can guarantee continued asepsis, although this is almost impossible to maintain if the liver pus is allowed to flow from the wound under the dressings in the ordinary way and saturate everything. It is in these large liver abscesses that the double tube is so useful, as the cavity can be repeatedly irrigated, even while the patient is asleep. The suction helps to cause collapse of the cavity walls, and in a few days it may be that all tubes can be removed even when the cavity originally contained 40 or 50 ounces. 3. Empyema thoracis. Here there should be no difficulty in securing a gas-tight wound from the outset, and no pus need get on the dressings. The suction undoubtedly helps lung expansion, and in suitable cases could be increased at will. The method has many other applications—e.g., after gall-bladder operations, &c.—although I have had no occasion to use it on such cases.

E. HENDERSON HUNT, M.Ch. Oxon., F.R.C.S. Eng.,
Chief Medical Officer, The Nizam's Guaranteed State Railway.
Secunderabad, India.

HEALTH AND MORALITY.—The Abolitionist Federation announces an International Conference at Portsmouth, June 15th–18th, in which constructive policy will be discussed under two headings, Reduction of Immorality and Reduction of Venereal Disease. Among the medical speakers are Dr. Santotiquido (Rome), Dr. Lornholt (Copenhagen), Dr. Rist (Paris), Sir Victor Horsley, Dr. Douglas White, Dr. Helen Wilson, and Dr. C. W. Saleeby. The non-medical speakers include the Bishop of Winchester, Mr. Bronoon Reynolds (American Federation of Social Hygiene), Councillor W. J. Dawson (Hull), M. Yves Guyot, and other visitors from France, Germany, Switzerland, &c. Programmes and tickets may be obtained from the secretary, Miss McNeill, 10, Tothill-street, London, S.W.

THE LANCET.

LONDON: SATURDAY, JUNE 6, 1914.

Departmental Regulations Under the Mental Deficiency Act.

THE Mental Deficiency Act, which came into force on April 1st, imposes on the Lunacy Commission, enlarged and reconstituted under the title of the Board of Control, the additional duty of organising and superintending an elaborate system for the supervision and treatment of certain categories of mental defectives who have not hitherto been directly amenable to any form of compulsory care. The local authority primarily responsible for the discharge of the new functions created by the Act is in counties the county council and in boroughs the borough council, but new and important duties are also assigned to the local authorities under the Education Acts and the Poor-law, and one of the first tasks confronting the Board of Control has accordingly been to arrange for the harmonious working of its own local machinery at the numerous points where it comes into contact with the machinery of the other administrative departments. The Circular Letters and Provisional Regulations recently issued by the Board of Control, the Board of Education, and the Local Government Board would appear to show that this somewhat difficult and delicate operation has been carried through with a degree of success which is highly creditable to the energy and tact of all the departments concerned, and is in itself a striking evidence of the reasonable and temperate spirit which animates the policy of the Board of Control.

The new powers created by the Act may be considered, from a practical point of view, under two main aspects, according as they affect the feeble-minded while still within the limits of school age, or as they relate to adult defectives who have committed criminal offences or who are likely to suffer through not being under proper care and control. Criminal defectives may be left out of account for the moment—in their case no inter-departmental question arises; they are brought under the operation of the Act either at the time of conviction, when the court may hand them over to the local control authority, or, in lieu of sentence, may make an order for their treatment in some one of the methods laid down in the Act, or subsequent to conviction, when the same course may be taken by the Secretary of State. Of adult defectives other than the class we have just referred to, the majority who may come within the scope of the Mental Deficiency Act are persons chargeable to the Poor-law. The Act definitely lays down that the responsibility of the Poor-law authorities for the relief of mentally defective persons is to remain unimpaired; and it is only when certain special circumstances, defined in the Act, are present, that the transfer of such persons to the local control authority can even be proposed. In any such case the method of procedure set out in the Provisional Regulations is that the Poor-law authority may report the case to the Local Government Board who, if concurring in the report, may transmit it to the Board of Control, and the Board of Control, if satisfied that the local control authority are able and willing to take the person under their charge, may issue a certificate sanctioning the transfer. As this process at each of its successive stages is purely permissive, and as the powers of the local authority are further limited by the amount of financial aid obtainable from the Parliamentary grant, it is probable that the number of such transfers will not be very large. It is to be hoped, however, that there will be no hesitation on the part of boards of guardians in having recourse to these special provisions as a means towards the protection and control of weak-minded girls.

Valuable as the Act will doubtless be in removing some of the more urgent difficulties in the management of adult defectives, there can be no question that its more important and more fruitful influence will be exercised through its application to the feeble-minded during the earlier years of life. For this reason particular interest attaches to the Regulations and Model Arrangements which have been framed by the Board of Education in consultation with the Board of Control, and which, read in the light of the circular letter issued by the former department, give a very clear idea of the policy that it is proposed to adopt in working the sections of the new Act having reference to mentally defective children. The scheme outlined in these documents is, of course, to some extent of a provisional and tentative character, but in the main it appears likely to commend itself to the approval of those who have had experience in the practical difficulties of the problem. Section 31 (1) of the Mental Deficiency Act lays upon local education authorities the duty of ascertaining what children within their area are defective within the meaning of the Act, and which of such children are incapable by reason of mental defect of profiting by instruction in special schools; and it further requires them to notify to the local control authority all children who are ascertained to be unfit for such schools, whether through inability to profit by the training or through being a source of detriment to other children, as well as children who on or before attaining the age of 16 are about to be withdrawn or discharged from a special school, and in whose case the education authority considers that it would be to their benefit that they should be brought

under the operation of the Act. Notification is to be in accordance with the Regulations made by the Board of Education, which are to have effect as if enacted in the Act. The Regulations, therefore, are binding on all local education authorities. They provide that where it is proposed to notify to the local control authority any child, not being an idiot or an imbecile, as unfit for instruction in a special school, the education authority shall, if required by the Board of Education, refer the case to that department before taking action. It is the view of the Board of Education that, while children rightly classified as idiots or imbeciles are ineducable, children rightly classified as feeble-minded are educable to a greater or less degree, and should in all cases be given an adequate trial under suitable educational conditions in a special school before being pronounced incapable of instruction and being handed over to the control authority. To give effect to this view the Board require that in each case prior to notification a copy of the report of the certifying medical officer shall be submitted to them, so that they may satisfy themselves that there is no *prima facie* reason to suspect that the child is not correctly described as an idiot, an imbecile, or a moral idiot. This attitude of the Board of Education gives very great practical importance to the question of diagnosis, and to secure a high standard of accuracy in this respect the model arrangements suggest as a desirable form of report the very elaborate schedule printed in Appendix E of the annual report for 1911 of the Board's chief medical officer. While this schedule has many admirable features, it may be open to doubt whether a simpler scheme of examination might not yield better results in practice. It appears to be somewhat of a counsel of perfection to require school medical officers to enter into such psychological refinements as are involved in measuring the capacity for the "formation of motor ideas," or in estimating, under "reactions resulting from sensory stimulation," the power of forming concepts of "relationship (similarity, contrast, symbolism)." Subtleties of this sort, many of which imply adherence to psychological theories that are by no means universally accepted, are hardly suited to the purposes of a standardised form for recording clinical observations.

In this connexion we may note as somewhat singular that the memorandum of the Board, while so liberal of psychology in its appendix, does not anywhere define the border-lines between idiocy and imbecility, and between imbecility and feeble-mindedness. The definitions of these degrees of defect are of special importance in view of the marked differences in the treatment which is to be applied to them under the scheme of the Board, and the rough practical tests relied on in the first section of the Mental Deficiency Act will hardly be sufficient for the requirements of exact diagnosis. The subject is, of course, extremely difficult and obscure, and it would be unreasonable to expect satisfactory results from the first efforts to provide official guidance in its complexities. Such efforts, however inadequate, will deserve commendation if they promote, as the schedule of the Board will no doubt promote, careful study and accurate record of the facts.

The Cow as an Agent of Diphtheria Infection.

THE Local Government Board has issued an instructive report by Dr. HUGH A. MACEWEN on an outbreak of diphtheria occurring in the South of London in December last which was attributable to milk infection. The outbreak, which Dr. MACEWEN investigated in conjunction with Dr. J. PRIESTLEY, Dr. STANLEY CHILD, and other medical officers of health concerned, affected 119 cases in 94 houses situated in Croydon, Lambeth, Penge, Camberwell, Lewisham, and Beckenham, all obtaining milk from a dairy situated in Lambeth and doing a large business in the districts named. The cases were distributed widely throughout several different sanitary areas, most of which had large populations and shared in the general prevalence of diphtheria that occurred throughout London in the autumn and winter of 1913. Had it not been for the careful nature of the inquiries made by the various public health officers the common origin of the infection in these different areas might well have been overlooked. Once the matter was gone into, however, there could be no doubt that the incidence of the disease had fallen in quite an exceptional degree upon the customers of the dairy in question, and that the milk sent out from that establishment had been infectious for a period of about three weeks. At one time it appeared possible that the infection might have been conveyed to the milk after it reached Lambeth, as certain of the distributors employed by the dairy were ascertained by Dr. PRIESTLEY to be carriers either of the Klebs-Löffler or of a "diphtheroid" bacillus. The possibility of infection occurring in course of the delivery of the milk cannot be lost sight of, and the facts as to the incidence of diphtheria on the different milk rounds of the dairy, which were worked out by Dr. PRIESTLEY, suggested that infection by these distributors might have acted as a contributory cause of the outbreak. It was concluded, however, that the bulk of the supply must have been infected before the milk was taken over by the suspected distributors, as a large number of cases occurred on the milk rounds of other distributors who were not diphtheria carriers.

The milk supplied by the dairy was mixed milk obtained from about 17 different farms, and it was presently ascertained that during the particular period in question a portion of the supply which came from one of these farms, situated in Horsham, was in all probability infected. During this period three of the milkers at this Horsham farm had suffered from ulcerated fingers, in one instance so severely

that a finger was amputated. Virulent diphtheria bacilli were obtained from the amputated finger of this milker and from a sore on the hand of another milker, the specimens being taken by different observers on separate occasions and being examined in different laboratories. The sores on the hands of the third milker were healed at the time he came under observation. As Dr. MACEWEN observes, it was difficult, if not impossible, to dissociate the cows from the milkers in considering how the milk became infected; the milkers had been free from diphtheria or sore-throat infection at their homes and they could hardly have been infected one after another on the fingers apart from the agency of infection on the cows' teats which they handled. It was found that in five of the cows at the farm irregularly shaped sores had been present on the udder and teats, situated usually on the upper portion of the teats, which resembled the sores on the milkers' hands. No great attention had been paid to these sores, and it could not be ascertained how long they had been present; it appeared tolerably certain that they had been observed before the first milker's finger was affected. At the time the farm was visited the sores were practically healed, and only a dry surface remained from which no swabs could be obtained. Samples of the milk were examined for the presence of diphtheria bacilli with negative result, but as these samples were not taken until Feb. 2nd, when all the external lesions were healed, no inference could safely be drawn as to the bacterial condition of the milk of these cows during the infective period in the previous December.

The unusual features of this outbreak deserve notice, and may usefully be borne in mind in similar cases where milk is suspected, and its prolonged daily infectiousness cannot be explained by a diphtheria case or carrier having access to the milk. The suggestion that cow infection may play a part in milk epidemics of diphtheria is not new, though well authenticated cases are rare. Sir WILLIAM POWER, to whom we owe the demonstration, in 1878, that diphtheria can be spread by milk, himself suggested the possibility of cow infection when reporting in 1886 on the facts of a remarkably severe outbreak of diphtheria in York Town and Camberley. Here, although he succeeded in tracing the infection to the milk of a large dairy, inquiries failed to produce any evidence of diphtheria among the milkers, and it was pointed out that a hypothesis of continued or intermittent infection of the milk as obtained from the cow could not be disregarded. In 1906 Dr. A. ASHBY reported in detail on a condition of the udders and teats of cows, similar to that now described at Horsham, in a dairy herd the milk of which had caused a considerable outbreak of diphtheria at Twyford. In this case the milkers' hands appear to have been unaffected, but diphtheria bacilli were demonstrated in the sores on the teats of the suspected cows. It is to be regretted that in the present instance the circumstances did not suggest or permit earlier examination of the cows at the Horsham farm and so complete on the bacteriological side the interesting chain of evidence which we have summarised. In such cases it is evidently desirable to lose no time in introducing the bacteriologist to the cow.

Annotations.

"Ne quid nimis."

THE BORDERLAND OF NEUROLOGY AND PSYCHIATRY.

AT the recent quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland, which was reported in our last issue, Dr. Helen Boyle, of the Lady Chichester Mental Hospital, read a paper on the question of how to improve treatment in the matter of early nervous and mental cases. The subject is undoubtedly one that is surrounded by both theoretical and practical difficulties, as several of the speakers in the subsequent discussion fully recognised. The general tenor of Dr. Boyle's paper was that neurology and psychiatry were as a rule practised separately, with not infrequently unfortunate consequences to the patient. Cases of mental disease in an early stage were diagnosed as neurasthenia and subjected to rest-cure treatment, which often was not merely useless but positively harmful. It was remarked with truth that the last person to see an early mental case was usually the alienist, who is nevertheless the specialist in that class of disease. There is, of course, no hard-and-fast line to be drawn between nervous and mental diseases. From whichever side they are approached border-line cases are constantly occurring. If the neurologist makes the erroneous diagnosis of neurasthenia in a case of exhaustion psychosis, the alienist may fail to recognise a cerebral tumour running perhaps an atypical course in a case with obvious disorders of conduct. We must admit that, broadly speaking, neurology and psychiatry have each a wide field, and that many cases are easily and readily placed as belonging to one or other category. But no one denies that leakage from one group to the other is a matter of everyday occurrence. To obviate mistakes, and, indeed, to avoid the unsatisfactory transference of cases where no mistake is made, the neurologist should be sufficiently familiar with the early forms of insanity, just as no psychiatrist can afford to dispense with a neurological training. No antagonism exists between the two sister sciences, and we believe that the whole tendency of modern developments in the study of disease of the nervous system is to bring them closer together than ever before. This is just as it should be. At the same time it must be said that asylum officers will often be found frankly to admit that they are conscious of having begun at the wrong end, so to speak, and that they feel that a working knowledge of the main facts of neurology should be theirs before ever they start on what is the higher study of the two—the study of the mind diseased. Comparatively few asylum officers have had such a training. In this connexion the newly instituted diplomas in psychological medicine are proving a splendid incentive to the psychiatrist to make himself as strong on the neurological side as he is on his own. Nor should the neurologist feel that

because a patient begins to show so-called mental symptoms the case is passing beyond his ken. He, too, should have had at least some asylum training, and he cannot afford to ignore the importance of an adequate acquaintance with the main facts and principles of so-called mental disease. We agree with Dr. Boyle that neurology and psychiatry are parts of the medical curriculum of which as a rule the student is somewhat shy; they are not brought prominently before him, and unless the physician in the hospital wards has himself shown interest in that class of case the student may have seen very little to help him when at length he joins the ranks of the general practitioner. For this reason we welcome the advances that are unquestionably being made. Several of the large general hospitals have neurological departments; most have at least one member on their staff who is alive to the importance of these specialties, and who chooses to teach on such cases in preference to others drawn from the other sections of internal medicine. It is rather on the side of psychiatry, on the whole, that the student is still not so well catered for as he might be, but already more than one general hospital has an out-patient clinique for mental cases, and ere long London will be still better off in this connexion. We see no reason why there should not be both neurological and psychiatrical cliniques at general hospitals, and it is possible that some day the physician at the head of such cliniques will be neither neurologist nor alienist, but a teacher with full experience of both nervous and mental disease. It is our impression that on the continent there is more coöperation in the two branches than in England; at least, more neurologists are members of psychiatrical societies, and *vice versâ*, than at home. In any case, it seems clear that in order to keep abreast of advances in knowledge of the functions of the nervous system both alienist and neurologist must continue to learn each from the other. We know that prejudices die hard, and that the stigma supposed in the mind of a considerable section of the public to be attached to the word asylum is a potent factor in the continuance of the present unsatisfactory situation. But this stigma is gradually disappearing; and were the public to become more familiar, by means of hospital cliniques and otherwise, with the view that mental disease is nervous disease, it would in time vanish altogether. All endeavours to achieve that end are worthy of the strongest support.

ACUTE PANCREATITIS.

PROBABLY one of the latest abdominal lesions to be recognised was acute pancreatitis, and yet it is one of the most important and most serious of the many acute affections involving the abdominal viscera. It is not, however, so important on account of its frequency, for acute pancreatitis is one of the rarer abdominal lesions, as on account of the difficulty in recognising it, at least in most cases. The rarity of the condition renders it unlikely that most surgeons will see many cases of the disease, and, in fact, it falls to the lot of few surgeons to see more than one or two examples. In the present issue of THE LANCET we publish an interesting and important paper by Mr. A. E. Barker, who has collected the notes of six cases which have been under his own care or that of his colleagues at University College Hospital. It is of interest to note the conclusions at which Mr. Barker has arrived. He points out that in several of the cases there had been previous attacks evidently of the same nature. The sudden onset and the severity of the pain were very marked. In no case was any tumour discoverable in the epigastrium without an anæsthetic, and even after the administration of an anæsthetic in only one case could a swelling be felt. With regard to treatment, drainage of the omental sac is not sufficient in most cases, and Mr. Barker insists on the need for retroperitoneal drainage. As to the results, of the five cases in which an operation was performed four recovered. With earlier operations the danger of the condition will probably be greatly diminished.

FERRO-CHROME DANGERS.

IT appears that ferro-chrome is liable, like ferro-silicon, to give off poisonous phosphoretted hydrogen gas, and the attention of the Local Government Board having been drawn to the subject, three officers were appointed to institute an inquiry. The results obtained now appear in a report published last week, signed by Dr. S. Monckton Copeman, F.R.S., medical inspector of the Local Government Board; Mr. Samuel R. Bennett, M.A., one of H.M. inspectors of factories; and Mr. H. Wilson Hake, Ph.D. Chromium as a constituent of steel confers important physical properties, but chiefly it hardens the material and as the proportion of chromium increases the alloy exhibits a high resistance to rupture and a high elastic limit. Chrome steels are mainly used for armour plate, armour-piercing projectiles, some high-speed steels, steels for stamps and crushers, and also for files, tyres, and springs. According to Dr. Monckton's summary of Dr. Hake's investigations there would seem to be no doubt that an excess of aluminium in chrome steel alloys is coincident with a tendency to spontaneous disintegration, accompanied by evolution of phosphoretted hydrogen. It may be remembered that ferro-silicon is prone to disintegration, especially in presence of moisture, poisonous gases being given off in such quantity as to bring about fatal results in human beings subjected to such emanations. Consignments, however, of ferro-chrome had been found to evolve "acetylene smelling gas more strongly than the worst ferro-silicon." Samples were found to fall to powder very readily on exposure to air and moisture, and paper impregnated with silver nitrate assumed an intense black colour almost immediately on exposure to the gases given off from this material, while lead paper was unaffected, thus indicating the evolution of phosphoretted hydrogen in large quantity. The explanation offered was that this must have been due to an abnormally high percentage of silicon, whereas ordinary ferro-chrome is almost as hard as cast iron. It now seems fairly established, according to this report, that the disintegrating quality of ferro-chrome is not due to silicon but to an excess of aluminium present. It certainly appears to be the case with the related material ferro-silicon. A sample of this latter with pure aluminium introduced proved to be specially liable to disintegration, giving off at the same time large quantities of phosphoretted hydrogen, while another sample freed from aluminium did not disintegrate, although otherwise of practically the same composition and exposed to similar conditions in all respects. By previous methods of manufacture apparently aluminium was practically excluded, but by a later method, in which

the affinity of aluminium for oxygen was made use of, the resulting alloy contained important quantities of this metal. The method consists in the reduction of chromium oxide to metallic chromium by the combustion of aluminium. The older methods, however, are capable of introducing aluminium, since this occurs in the chromium ore itself, apart from that contained in the coal employed to reduce the ore to the metallic state. The avoidance of any risk to life arising from the disintegration of ferro-chrome, which leads to the evolution of poisonous phosphoretted hydrogen, would thus appear to rest upon the elimination as far as possible of aluminium in the resulting alloy, and DR. HAKE reports that while ferro-chromes are not entirely free from danger, the dangerous samples have, until recently at any rate, been rather the exception than the rule. But in every case the offending ferro-chrome was always one containing a marked amount of aluminium (1 to 7 per cent.), whereas in the innocent specimens quite small quantities were found, a good typical specimen containing only 0·08 per cent.

JAUNDICE IN TUBERCULOSIS.

JAUNDICE is a rare condition in tuberculosis. In the *American Journal of the Medical Sciences* for May Dr. John M. Cruice has published an important paper on this subject from the Henry Phipps Institute, a source from which have emanated many valuable contributions to the literature of tuberculosis. In 570 necropsies at the institute only three cases of jaundice due to tuberculosis of the liver were encountered. There were also four cases of jaundice in which the patients left hospital, and therefore it could not be proved that the jaundice was due to tuberculosis of the liver. These seven cases of jaundice are all that have occurred in 1748 cases of tuberculosis admitted from the opening of the hospital until Feb. 1st, 1912. Like other forms of jaundice, jaundice in tuberculosis may be due to extrahepatic or intrahepatic obstruction. Extrahepatic obstruction is produced by tuberculous glands in the portal fissure pressing on the bile ducts. This is a rare condition, because these glands do not receive lymph from the intestines or peritoneum. When jaundice is of intrahepatic origin there is tuberculosis of the liver. This condition takes three forms—miliary tubercles, solitary tubercles, and tuberculous cirrhosis. Only in the first two forms has jaundice been reported. Miliary tubercles of the liver are of frequent occurrence, but jaundice due to this condition is very rare. Only one case was observed at the institute. A youth, aged 20 years, was admitted with advanced tuberculosis of both lungs. The liver extended two finger-breadths below the costal margin and the spleen was palpable one and a half finger-breadths below the costal margin. The patient became slightly jaundiced and the liver tender. He died seven weeks later. At the necropsy cavities and miliary tubercles were found in the lungs. The liver was enlarged and fatty, and on microscopic examination showed miliary tubercles. Solitary tubercle of the liver is very rare and may take three forms—conglomerate tubercle, tuberculous cavities or bile-duct tuberculosis, and tuberculous abscess. Conglomerate tubercles are comparatively large caseous masses. Dr. Cruice has been unable to find recorded a single case of conglomerate tubercle with jaundice, but two such have occurred at the institute. Of bile-duct tuberculosis Dr. H. D. Rolleston says it is remarkable that jaundice is constantly absent, although some of the ducts are obstructed. Thayer has reported a case of tuberculous cavities of the liver which showed jaundice for a week but cleared up some time before death. Warthin has reported a case of bile-duct tuberculosis with intense jaundice for three months before death. At times solitary tubercles become secondarily infected with pyogenic organisms and form abscesses. Mr. Mayo Robson has reported a case of tuberculous abscess of the liver which was successfully operated on. For three months before the operation there was a slight tendency to jaundice. From such a small number of cases Dr. Cruice does not draw conclusions, but taking them in conjunction with those reported in literature they suggest: (1) that jaundice in the course of chronic tuberculosis is probably due to some form of tuberculosis of the liver, extrahepatic or intrahepatic; (2) that the degree of jaundice is helpful in surmising the pathological condition, intense jaundice being probably due either to pressure of tuberculous glands on ducts or to some form of solitary tubercles of the liver, milder forms to miliary tuberculosis of the liver.

SCLERODERMIA.

IT was Thirial who, in 1845, first described this condition. The hardening of the skin, its loss of elasticity, its frequent distribution over wide symmetrical areas in the skin, and, when it especially involves extremities, the associated cyanosis and asphyxia of the fingers and toes, resembling markedly Raynaud's disease, present a striking clinical picture. Later observations have shown some curious relationships to this condition not previously suspected. It has been shown that sclerodermia is often associated with abnormal states of the thyroid gland; this may be atrophied or, more usually, hyperactive. Sometimes the thyroid condition may precede the sclerodermia; occasionally the reverse occurs. Further, changes in the pituitary gland have been noted; possibly other glands of internal secretion are implicated in some way not known. It is sufficient to note that there is some intimate relationship between the sympathetic nervous system, the glandular structures controlling it, and sclerodermia. Beyond these points, however, which are in the speculative stage so far as pathogeny is concerned, there have been many interesting observations upon the condition itself. An instructive case has been recorded by Bertolotti in the *Nouvelle Iconographie de la Salpêtrière* (1913, vol. iv., p. 291). The patient was a woman aged 36. There was evidence of atrophy of the thyroid gland; there was some pigmentation of the face suggestive of Addison's disease; the wrinkles of the face were exaggerated and immobile. Hardening and thickening of the subcutaneous tissues was present over most of the body, but most marked in the neighbourhood of the extremities. There were asphyxial troubles of the fingers exactly resembling Raynaud's disease. There was in addition localised muscular atrophy; the muscles had in some places undergone an induration sclerosis by a process of interstitial myositis. The tendons were retracted, hard, and presented signs of calcification. In other parts the muscular changes were similar to primitive myopathy. In some places there were in

the skin small hard nodules filled with a calcareous substance of dark colour. Radiographic examination showed a certain degree of pituitary hyperplasia. There was, finally, a limitation of perspiration to the hands, an unusual condition, the reverse being more often the case. This writer calls atttention to the resemblance of this disease when it has reached this stage to the syndrome known as that of Proficbet. In this syndrome the prominent feature is the presence of muscular atrophy and hardened areas in the skin, which can go on to the formation of calcareous nodules. At the necropsy of one of these cases there was found myocarditis and atrophic viscera. It is suggested that this syndrome represents but a further stage of sclerodermia, in which condition similarly fibrous cirrhosis of the liver has been found. The diagnosis of sclerodermia may have to be made from Raynaud's disease when the extremities are especially involved, from von Recklinghausen's disease when there are multiple nodules, and also from gout. In the latter condition the nodules are transparent to X rays, whereas the sclerodermic masses are impervious on account of the calcareous deposit. Treatment is often of little avail, although the intimate relation to thyroid disease suggests the giving of thyroid substance, which has in some cases been followed by good results.

INFANTILE MORTALITY IN THE PHILIPPINE ISLANDS.

AN excessive mortality is known to be occurring among infants in the Philippines, and this massacre of the innocents is greater in the capital city of Manila than in the provinces. In recent years energetic efforts have been made by the American medical officers stationed in those islands with a view to reduce this sacrifice of infant life, but for various reasons, among others owing to the invincible apathy of the Filipino people, little progress has been attained, and much therefore still remains to be done. Some interesting and valuable information on the subject is furnished in an article contributed to the current number of the *Philippine Journal of Science*, Section of Tropical Medicine (Vol. VIII., No. 6), by Dr. W. E. Musgrave, of Manila. It appears that the high infantile death-rate is due to a multiplicity of causes, prominent, however, among which is the very important question of food. The adults of the masses of the population have often the appearance of being ill-nourished, and this to a great extent arises from the poorness of the quality of the foodstuffs forming the staple of their dietary. Among these foodstuffs unpolished white rice has bulked largely for some time, and, as might have been anticipated, beri-beri is far from infrequent, attacking even infants at the breast. The evidence of this insufficiency of nourishment is most marked among the nursing mothers, many of whom unsuccessfully attempt in their half-starved condition to provide adequate nourishment from their breasts for their hungry offspring. It is a curious fact and worthy of note, being contrary to all ordinary experience, that in Manila the death-rate is higher among breast-fed babies than amongst those who are artificially fed. No one disputes nowadays the statement that mother's milk is the ideal food for very young children, but it seems to be otherwise in the Philippines, since the mothers, at least among the lower classes, are unable to furnish to their sucklings milk that is of a quality good enough to meet their requirements. Unfortunately, it is not possible to substitute for the mother's milk clean and fresh cow's milk, for this is not obtainable in sufficient amount, and what little is available is too costly to let it come within the reach of the masses who need it. The milk-supply in Manila is to a great extent obtained from caraboas (a kind of Indian buffalo) and goats, but from the sanitary point of view this supply is dangerous owing to the shocking conditions under which much of it is produced for sale. The methods of collecting, transporting, and using this milk are, according to Dr. Musgrave, "unbelievably filthy." As sold in the streets of Manila, it is generally from 26 to 30 hours old; it has already been diluted with tap-water—or worse; it has been collected and transported in dirty vessels, and has been milked by unclean persons from unclean animals. It is condemned by chemical and bacteriological examination, and often contains dangerous bacteria. It seems, therefore, that in existing circumstances, a raw fresh milk being unattainable, it becomes necessary to consider the advisability of sterilising or pasteurising the available supplies. Dr. Musgrave very properly points out that in the climate even sterilised milk rapidly deteriorates unless kept in ice, a course impossible for the great majority of the Filipino population. The conditions for the growth of micro-organisms are ideal in the Philippines, so that when preserved and condensed milk is used it must be consumed as quickly as possible after the tin is opened, otherwise it is apt to become dangerous from the rapid growth of bacteria. Another source of peril to the child is the dilution of condensed milk, after the tin is opened, with unboiled water derived from a contaminated source. The best brands of condensed milk are available in the Philippines, but the poorer classes insist on buying the cheapest kinds, the worst from the nutritional point of view, lacking largely a sufficiency of the substances which the child needs for its growth. Before any great improvement can take place it is obvious that education of the common people, especially of young women and girls, is necessary with regard to the best and most nutritious articles of diet, and as to the care and management of infants, along with the establishment of public nurseries where practical instruction can be given. It is, however, essential in the Philippines, if this wastage of child life is to be checked, that public opinion on the subject be thoroughly awakened. We are glad to learn that the whole matter is now under the consideration of the Philippine legislature.

PARALYSIS AGITANS TREATED BY NUCLEINATE OF SODA.

ON the hypothesis that Parkinson's disease may be due to defective quantities of metabolised nuclear material, especially in the nervous elements of the body, it has been suggested that nuclein may perhaps improve metabolism and consequently relieve the symptoms of the disease. Dr. N. Búia reports the results which he has gained in a series of cases of paralysis agitans treated by nucleinate of soda in the *Comptes Rendus de la Société de Biologie* (1914, vol. lxxvi., p. 507). The period over which the observations were made was five months—a sufficiently long time, he claims, for the effects, certainly beneficial, of this treatment to be judged. The preparation

used was nucleinate of soda, 10 per cent. strength in physiological serum. It was tried by mouth, hypodermically, and intravenously. By mouth no effects were observed. Hypodermically 40 centigrammes were given, starting, however, at a lower figure and increasing the amount by 5 centigrammes every two days. 40 centigrammes were not exceeded and the treatment lasted for a month. Improvement in the mental capacity was observed and the patients (five in number) were stated to be generally benefited. Much better results, however, followed the intravenous method. The same solution was used. Effects were noted 15 minutes afterwards. Three types of response were observed. In a few the response was insignificant; in others there was a well-marked thermal rise, sometimes to 39·8° C. occurring within half an hour. There was a sensation of cold and shivering. These immediate effects were followed by later general improvement. In a third class of case there occurred sudden loss of tremor, there was lessening of muscular rigidity, a rise of temperature which subsided to normal in about four hours, and some rise of blood-pressure. Continuance of treatment in such cases showed definite psychic improvement; there was a lessening of the tremor, and a definite increase in muscular force was gained. These effects presented some degree of permanency. In the treatment no untoward symptoms occurred, though in some cases larger doses of nucleinate of soda than 35 to 40 centigrammes caused nausea, vomiting, and vertigo. There were also, occasionally, tachycardia, dyspnœa, and headache. These effects, however, need not be anticipated in moderate doses of the drug. The results appear sufficiently encouraging to warrant further observations upon similar lines.

VOLVULUS AS A SEQUEL TO A BOXING COMPETITION.

A VIOLENT effort may be the exciting cause of volvulus. In the *Australasia Medical Gazette* of April 4th Mr. E. Buckley has reported a case following a boxing competition. A youth, aged 18 years, took part in an amateur boxing competition after a medical examination in which he was found quite sound. He fought six rounds of two minutes each, the whole being considered a strenuous battle, and won. No ill effects were noticed. About midnight he arrived home and his bowels acted half an hour later. Soon after he complained of severe abdominal pain not limited to any particular area. At 6 A.M. he vomited. At 8.30, when Mr. Buckley saw him, he was in great pain and the abdomen was tender all over, particularly in the lower part, but it moved freely on deep respiration. Enemata were given without result. At 11 the abdomen still moved on respiration, but the muscles were slightly "on guard." He was not complaining of pain, but this may have been due to the administration of a quarter of a grain of morphine. At 5 P.M. his appearance had greatly changed. He looked anxious, the pulse was 66 and the temperature 98·6° F. The lower segment of the abdomen was slightly distended and the abdominal muscles were decidedly on guard. At McBurney's point tenderness was acute. He was removed to hospital with a view to operation. The pulse rose to 100, and he vomited bile-stained material for the third time. The abdomen was opened in the appendix region. On incising the peritoneum bright red blood rushed out. A black shining coil of small intestine presented. Other coils were distended and showed numerous hæmorrhagic patches. The junction of the cæcum and the ileum formed a volvulus. The proximal end of the vermiform appendix was included in the constriction, and the distal part was greatly swollen. The twist was relieved without difficulty. The brevity of the illness suggested that the circulation in the intestine would be re-established, and the abdomen was closed. During the night two motions, consisting of dark blood, with much flatus, were passed. At 11 A.M. next day the patient became collapsed, and at 2 P.M. he died, 36 hours after the onset of the illness. It was not possible during the operation to discover accurately the anatomy of the region involved. Unfortunately a necropsy could not be obtained. During the boxing no blow was received on the abdomen. Mr. Buckley suggests that some anatomical condition may have predisposed to the volvulus which was brought about by the exertion of the boxing match.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

Mr. H. Morriston Davies has recently contributed to our columns an article on the great advances made in the last past decade in the surgical treatment of pulmonary tuberculosis.[1] Of the various methods the induction of pneumothorax by injection of nitrogen into the pleural cavity is the simplest, and should be adopted when temporary collapse of one lung is indicated. But in many cases this operation is impossible owing to pleural adhesions. In such the more severe operation of rib resection has been adopted. A less drastic method, termed "pneumolysis," has been devised by M. Tuffier and recently practised. In conjunction with M. G. Loewy he has described it, and given its results in the special tuberculosis number of the *Interstate Medical Journal*. His method differs from artificial pneumothorax in that only the diseased pulmonary region is immobilised, while in the latter the whole lung is, which M. Tuffier regards as a mistake. He has recently modified and perfected the technique, which is as follows. To produce detachment of the apex an incision 6 centimetres long is made in the second intercostal space, commencing a finger-breadth from the sternum. The intercostal muscles are exposed and divided after inserting a director as deep as the posterior surface of the space. The pleura is reached and carefully detached. A strong toothed-rack retractor is then introduced. At the bottom of the space made by forced retraction between the second and third ribs is exposed the pleura, which is often adherent. With the index finger the parietal pleura is detached, the finger resting against the bone and not against the pleura, and by degrees working its way towards the apex of the lung. The detachment is continued in an upward direction anteriorly until the apex is entirely freed, then posteriorly, where detachment is decidedly difficult. During the operation the lung is seen to collapse on each inspiration. The inspiration and expiration of air in the cavity will soon cause an extrapleural pneumothorax, which may lead to infection. M. Tuffier therefore during detachment has the whole denuded surface covered with a piece of thin silk, which he sometimes coats with a thin layer of vaseline, so that the air does not come in contact

[1] THE LANCET, April 4th, 1914, p. 960.

with the wound. The lung having been separated, there remains a large extrapleural cavity which must be filled. This he does with adipose tissue, fresh or preserved, Beck's bismuth paste, or bismuth paraffin. The foreign substance must be maintained in place, which is a difficulty. Complete suturing of either the fibrous or muscular tissue, or between the intercostal muscles and periosteum, or autoplasty is performed. The detachment of the lung from the ribs permits of obliteration of a septic pulmonary cavity by facilitating retraction of the lung towards the hilus, and the retraction is rendered permanent by the filling. In a case seen four months after operation the fat used was found to have retained its vitality. The operation was first performed in March, 1912, and subsequently 15 times. In one case it was bilateral for disease progressing on both sides. On the right 450 c.c. of adipose tissue, which had been kept five days on ice, was grafted into the pleuro-parietal space; on the left bismuth paraffin in about the same quantity was introduced. The symptoms were ameliorated and the cough disappeared. Of the other 14 patients, secondary suppuration occurred in four and the graft was eliminated in the abscess. In the remaining ten decided benefit was shown by lowered temperature and diminished expectoration (in one case complete suppression). But as all the cases date from only a few months the value of the method still remains to be decided. Recently Jessen has reported six cases of pneumolysis with results generally satisfactory.[2] M. Tuffier thinks that this method should be adopted early in the disease, just as in a tuberculous joint the surgeon does not wait until suppuration occurs and sinuses form.

MYASTHENIA GRAVIS WITH PSYCHIC SYMPTOMS.

THE pathogeny of this strange, but by no means very rare, disease is still rather obscure. There is, however, little doubt that the glands of internal secretion cannot escape some responsibility. The weakness of the muscles is not dependent solely upon the pathological "lymphorrhages," small collections of small lymphocytes which are distributed in an irregular manner amongst the muscular fibres; the condition is not altogether on a par with the muscular dystrophies. The evidence that the secretory glands are concerned is suggested by several facts. In a very considerable number of myasthenia cases there is enlargement of the thyroid gland; the thymus is often larger than normal; in some cases of Basedow's disease the myasthenic muscle reaction is obtained. There is in both myasthenia gravis and Basedow's disease an increase of oxygen metabolism and nitrogen output. Finally, the extraordinary exacerbations in myasthenia, shown by the way in which these patients may on occasion completely recover, may fluctuate in the intensity of their symptoms, and may be subject to both a chronic and, in some instances, very acute onset of the condition, suggest a close clinical analogy with the similar vagaries seen in Graves's disease. Simple muscular change cannot explain all these variations, for the dystrophies are characterised by their peculiarly insidious onset and their progressive and chronic clinical course. They are associated, too, with no mental disturbance. There has lately been described a case of myasthenia gravis in which the patient had occasional lapses of consciousness, and in the proceedings of the Société de Neurologie de Paris (Dec. 4th, 1913) MM. Souques and Mignot record a case of somewhat similar character. The patient was a man aged 35. He was well in every way till four years ago. Then he noted feebleness of the legs, and later this weakness extended to the arms, trunk, and neck. Such an onset is not unusual. There occurred, however, when in this state a violent paralytic crisis. It involved, not only the above muscle groups, but also the face and the eyes, which showed ptosis and diplopia. Mastication and swallowing became almost impossible. Speech became difficult. In this paralytic state the patient remained for three and half months; then slow recovery ensued, and a year later he was able to leave the hospital. He then had no signs of paralysis. For three months he remained well, and even did some work. But again many signs of weakness gradually returned. Since then for the last year he has remained in an enfeebled state, showing varying degrees of improvement and retrogression. During this time he had two crises. It was in these that he showed mental symptoms. There was marked diminution of the power of memory; his intellect was dimmed; volition impaired. There was also impairment of the senses of taste and smell. The case is instructive in showing the range of variation in intensity of the disease; it shows also that the central nervous system may participate in the response to whatever is the responsible cause of the condition. Adrenal gland was given in this case, but without noticeable benefit.

[2] Münchener Medizinische Wochenschrift, July 22nd, 1913, p. 1591.

ATROPHY OF THE MUSCLES OF THE HAND FROM COMPRESSION NEURITIS.

IN the *Review of Neurology and Psychiatry* for April Dr. J. Ramsay Hunt, of Columbia University, New York, contributes another paper on an interesting subject to which he had previously directed attention. Atrophic paralysis of the small muscles of the hand is a very common neurological symptom. It may occur in spinal cord diseases, such as progressive muscular atrophy, syringomyelia, and local lesions in the lower cervical and upper dorsal regions. It may follow involvement of the anterior spinal roots, as in hypertrophic cervical pachymeningitis, and it is often seen in lesions of or after injuries to the brachial plexus or to the ulnar and median nerves. The association of the muscular atrophy with sensory changes, when the latter occur, usually aids in the determination of the topographical localisation of the lesion. Dr. Ramsay Hunt draws particular attention, however, to a type of wasting of the small muscles of the hand in which sensory changes are not found, so that it presents a certain resemblance to an early myopathy or myelopathy. It is due, nevertheless, essentially to a peripheral lesion of purely motor branches of the median and ulnar nerves, and may be divided into a thenar and a hypothenar variety. In the first of these, compression of the thenar branch of the median as it passes behind the anterior annular ligament of the wrist results in a secondary atrophy of the abductor pollicis, opponens pollicis, and outer head of the flexor brevis pollicis. Sensibility in the distribution of the median nerve is normal, while fibrillation is absent. A reaction of degeneration in the affected muscles is obtained. It is this strict limitation of the atrophy which suggests a local lesion, and it is not likely to be confused with any other condition,

except the atrophy sometimes seen in cases of cervical rib. In the latter case, however, subjective or objective sensory changes occur, while an X ray photograph will prove of diagnostic value. The hypothenar variety is characterised by paralysis with atrophy of all the small muscles of the hand supplied by the ulnar nerve, and according to Dr. Ramsay Hunt results from compression of the deep volar branch as it passes between the tendons of origin of the short abductor and the short flexor of the little finger. In this case also sensory changes are absent as the nerve involved is purely motor. An interesting minor point in connexion with this variety is the question of preservation of function of the palmaris brevis; that small subcutaneous muscular fasciculus is supplied from the superficial palmar branch of the ulnar nerve, and therefore escapes injury in compression of the deep palmar branch. The exact localisation of the site of compression can be definitely made. As all the muscles supplied are paralysed the injury must take place at a spot central to where the nerve breaks up into its muscular twigs; this is placed between the tendons of origin of the little finger muscles above mentioned, where the nerve comes into close relationship with the hook-like process of the unciform bone. Dr. Ramsay Hunt gives several illustrative instances of these varieties, the recognition of which is of much practical importance.

THE Croonian lecture before the Royal Society will be delivered by Professor E. B. Wilson, Columbia University, on the Bearing of Cytological Research on Heredity, on Thursday, June 11th, at 4.30 o'clock.

THE vacancies in the medical appointments to the King caused by the death of Sir Francis Laking have been filled as follows: Sir Bertrand Dawson, K.C.V.O., physician extraordinary to his Majesty, is appointed physician in ordinary to the King; and Dr. Frederick Stanley Hewett is appointed surgeon-apothecary to the King and apothecary to his Majesty's household. Queen Alexandra also has appointed Dr. Hewett Surgeon Apothecary to Her Majesty and to Her Majesty's Household, in the room of Sir Francis Laking.

THE French Academy of Medicine has elected Sir William Osler as a Foreign Associate of the Academy.

MEDICINE AND THE LAW.

Lord Gorell's Matrimonial Causes Bill.

THE Bill introduced in the House of Lords by the chairman of the recent Royal Commission on Divorce seeks to embody the principal recommendations to be found in both the Majority and Minority Reports. It is not for that reason entirely free from proposals likely to afford food for controversy, but these need not be discussed here. The provisions of the Bill which are briefly indicated below are those which suggest the extent to which the medical profession may have to furnish evidence in matrimonial causes if the measure should become law. It enables husband and wife equally to obtain divorce on the ground of adultery (including any unnatural offence), specifying circumstances which shall afford either absolutely or in the discretion of the court a defence to proceedings in which either divorce or judicial separation is claimed. It enables a decree of judicial separation to be obtained for habitual drunkenness. The words "habitual drunkard" (of either sex) are defined to mean a person who habitually takes or uses any intoxicants, and while under the influence of such intoxicants or in consequence of the effects thereof is at times dangerous to himself or dangerous or a cause of terror to others, or the cause of serious harm or suffering to members of his family or others, or incapable of managing himself or his affairs. The expression intoxicant is to include "any intoxicant, liquor, or sedative, narcotic, or stimulating drug or preparation." It will be observed that the wife or husband of what may be called a "harmless" drunkard will not be able to obtain a separation from him or her unless an incapacity to "manage" be established which may not be easy to prove. The proposed grounds for obtaining a decree of nullity of marriage are: (*a*) incapacity of either party to consummate, or failure to do so owing to the unreasonable refusal of the defendant; (*b*) "that the defendant was at the time of the marriage of unsound mind or in a state of incipient mental unsoundness which has become definite within six months of the marriage, or was at the time of the marriage subject to epilepsy or to recurrent fits of insanity"; (*c*) "that the defendant was at the time of the marriage suffering from venereal disease in a communicable form" or "pregnant by some person other than the applicant." Part II. of the Bill is devoted to the regulation of separation and maintenance orders obtainable on the ground of cruelty or habitual drunkenness. The power to make separation and maintenance orders is accompanied by power to make other orders providing for the care of children and for matters rendered necessary by the making of a separation order. Where a court makes a separation order on the ground of habitual drunkenness it is enabled in addition to order that the defendant shall submit to treatment which it may specify, or be detained in a licensed retreat. The following definition of cruelty is to be noted:—

> The expression "cruelty" means such conduct by one married person to the other party to the marriage as makes it unsafe having regard to the risk of life, limb, or health, bodily or mental, for the latter to continue to live with the former; and proof of the following facts: (*a*) that one party to the marriage has knowingly or negligently infected the other with venereal disease, or (*b*) that a husband has compelled his wife to submit herself to prostitution, shall without prejudice to the generality of the foregoing definition be sufficient proof of "cruelty" as defined.

Specific provision is made in the Bill for the hearing *in camera* of proceedings, if the Court of Appeal or a judge of the High Court so orders in the interests of "decency, humanity, morality, or justice." For similar reasons a court of summary jurisdiction may order the same procedure. This appears to be the second time only that hearing *in camera* has been authorised by statute, the other Act referred to being the recent penal statute dealing with incest, no definition of what is to constitute hearing *in camera* being given. The Bill under discussion also proposes that it shall be unlawful

> To publish any report of any proceedings under this Act until the conclusion of the proceedings, or to publish any pictorial representation of or in connexion with any such proceedings, or to publish any report of any proceedings or such part thereof heard *in camera* as aforesaid.

This last is an interesting and important provision which will generally be welcomed by parties and witnesses alike. The only argument against the

forbidding of the publication of reports of proceedings during their progress and of pictorial representations is to be found in the possibility that such publication may lead to important witnesses coming forward who otherwise might not be discoverable, and might not know that their evidence was needed in the interests of justice. The repeals proposed by the Bill are those rendered necessary by the innovations which it introduces.

Bland v. *Yates: House Flies as a Nuisance.*

An action was recently brought in the Chancery Division by Mr. and Mrs. J. O. P. Bland, the latter being the owner of a house and grounds at Shepperton-on-Thames, against Mr. H. S. Yates, a market gardener owning land adjoining the plaintiffs' garden. The plaintiffs asked for damages and for an injunction to restrain the defendant from depositing manure on his land so as to interfere, by reason of the offensive smell or the breeding and collection of flies, with the reasonable and ordinary comfort of existence of the plaintiffs as occupiers of the premises, or to cause injury to the plaintiffs' health. The plaintiffs claimed sums of money spent by them in trying to exclude flies and unpleasant sights and smell from their house and grounds. The defendant had purchased his land in 1910, the year in which Mrs. Bland bought her house, and had converted meadow land into a market garden, using a system known as intensive French cultivation, necessitating the application of a large quantity of manure which was accumulated and matured at a point close to the plaintiffs' wall until the proper season for putting it on the land. Evidence in support of the plaintiffs' contention that the flies and the smell of manure constituted a nuisance was given by, among others, Mr. E. H. Ross and Sir Ronald Ross, and on the behalf of the defendant denying the alleged nuisance by Professor Kenwood, Dr. J. C. Thresh, and Mr. E. E. Austen of the Department of Entomology, British Museum. Mr. Justice Warrington, who delivered judgment without calling upon counsel for the plaintiffs to reply, said that the question he had to determine was whether the defendant by his operations interfered with the physical comfort of the plaintiffs and their family in the occupation of their house according to the ordinary notions prevalent among reasonable English men and women. He had to take the matter into consideration in connexion with all the circumstances of the locality. He found that during the warm months the plaintiffs did suffer interference with their comfort as occupiers of their house and garden according to ordinary notions. As to whether this amounted to a nuisance at law due to the defendant's gardening operations, if a manure heap and the handling of manure were found it did not need much to convince anyone who had had experience of bad smells that these were due to the manure. With regard to flies, the evidence was that the house fly and lesser house fly bred by choice in horse manure, and he could but come to the conclusion that the provision of the flies' breeding-place had had its natural result and that the flies complained of came from the defendant's manure heap. He was reluctant to interfere with a profitable and good industry, but he must grant an injunction restraining the defendant from depositing or stacking manure on his land so as, by reason of offensive smell or the breeding and collection of flies, to occasion a nuisance to the plaintiffs. He did not intend to stop the defendant's garden, but only to prevent him from carrying it on so as to occasion a nuisance to the plaintiffs. He ordered the defendant to pay the costs of the action. The above summary of Mr. Justice Warrington's observations indicates the points to be established and to which evidence must consequently be directed in an action of this kind. The evidence had shown that the manure heap was a large one, and that the spot selected for it had been chosen because the soil where it was deposited was less suited for cultivation than that at a more distant part of the defendant's land.

Workmen's Compensation and the Cause of Death.

Conflicting medical evidence was heard in a case under the Workmen's Compensation Act at the Liverpool county court recently, the claimant being the widow of a joiner named Little, and the respondents a firm of builders. The chief question at issue was whether an accident which had taken place had been the cause of the man's death or had had nothing to do with it. When Little was hanging a door it struck the ceiling, and limewash thus dislodged fell into his left eye, causing injury which eventually necessitated its removal. After this had been done he returned to work, but his health broke down and he contracted bronchitis and died. Dr. Nathan Raw, called as a witness, was of opinion that the mental and physical distress caused by the accident and by its results might have predisposed the deceased to be affected by the illness which caused his death, and that his power of resistance had been diminished. Evidence was given by Dr. J. Drummond as to the deceased's robust condition of health at the time of the accident, and Dr. John Owen had come to the conclusion from reports of the case that the injury could not have been without effect in bringing about the fatal termination of the bronchitis. For the employers, Mr. C. A. A. Dighton, who had removed the eye, refused to trace any connexion between the loss of it and the bronchitis, and Mr. J. F. Roberts, who had attended the deceased at the time of his death in the Mill-road Infirmary, stated that he died from acute capillary bronchitis due to the extraordinarily foul condition of his teeth, which he attributed to the excessive chewing of tobacco. Other evidence was given by workmen to the effect that the deceased had worked well after the accident. The arbitrator was not called upon to decide the case, which eventually was settled by mutual consent, the employers agreeing to pay a sum of £82 to the widow. His honour Judge Thomas expressed his approval of the arrangement.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the thirty-eighth meeting of the Royal Commission on Venereal Diseases evidence was given by Sir William Osler, Bart., Regius Professor of Medicine in the University of Oxford.

Sir William Osler stated that the official statistics of deaths published by the Registrar-General were totally inadequate to represent the actual incidence of venereal diseases; for instance, in 1910 the deaths from syphilis in England and Wales were given as 1649, but this was a very unsatisfactory and incomplete estimate. It was necessary to take into consideration and add a very large number of deaths appearing under other descriptions. If regard were had to these, he thought that it would be safe to say that of the killing diseases syphilis came third or fourth. Gonorrhœa he regarded as one of the great disabling diseases, causing

an enormous amount of ill health and playing a very large part in the production of blindness. Sir William Osler laid stress on the importance of early treatment of these diseases, and was of opinion that every general hospital should provide in respect of them out-patient accommodation and proper accommodation in the wards. It was part of the work of the governors of hospitals to provide for these diseases, and they ought not to be left out; in the past they had been too much neglected by the charitable public.

Sir William Osler was in favour of compulsory notification of venereal diseases, and considered there was a possibility that this would result in some concealment, but he thought that this was a risk that might now be taken. On the question of the education of medical students he was strongly opposed to their being dealt with as a special subject added to the curriculum, with special lectures and an additional set of separate examination questions. He considered that if this education could be given in out-patients' clinics and in the wards and by general teachers it was as much as could be expected of the student, looking at the short space of time at his disposal and the great congestion of the curriculum. Sir William Osler thought that it would have an immense effect if the public were instructed by means of lectures regarding venereal diseases. Lectures of this kind, he thought, should not be given by a layman, but by a well-trained medical man who should be provided with proper diagrams and slides. It would be a very useful thing if the lecture could be widely given to the senior forms of the big public schools, in the universities, and at large institutions employing many persons. He was not in favour of teaching sex physiology or hygiene to young children.

At the thirty-ninth meeting Dr. J. H. Sequeira, physician to the Skin Department of the London Hospital, gave evidence. He stated that the statistics of adult cases treated in the London Hospital Skin Clinic during 1913 showed that 13 per cent. both in the case of men and women were suffering from obvious syphilis of the skin and mucous membranes. In the case of the women the proportion in the primary and secondary stages was smaller than in the case of the men, and this he attributed to the fact that a larger number of women were unaware that they were affected with the disease. He gave a number of instances of innocent syphilis, and said that in his hospital experience he found that a larger number of women were infected during their married life. With regard to the use of salvarsan and neosalvarsan, he was confident as a result of his experience of a large number of cases that these remedies provided a most powerful means of influencing the disease. He was, however, of the opinion that it was necessary to combine salvarsan and neosalvarsan treatment with the use of mercury. By prompt treatment the risk of the spread of infection could be enormously diminished.

Dr. Sequeira was not in favour of compulsory notification of syphilis, as he thought it would result in many people seeking advice from quacks. On the other hand, he thought there were conditions in which a medical man should be armed with some power to prevent the spread of infection. It should be held to be the duty of a medical man to do all in his power to prevent the spread of infection, and he should be held to be immune from any penalties in the exercise of his duty. Dr. Sequeira insisted strongly on the need for increasing the accommodation available in general hospitals. There should, he said, be no hindrance whatever to any patient receiving treatment, and the fact of his or her suffering from the disease should be the sole indication for admission.

PRESENTATION TO A MEDICAL MAN.—The townspeople of Horsham, Sussex, on May 26th presented Mr. E. I. Bostock, M.R.C.S. Eng., with a testimonial to mark the close of nearly 40 years' connexion with the local governing body of which he was the head for 30 years. Mr. Bostock was presented with an illuminated album containing an address and the names of the subscribers, and a silver tray, framed portraits, and a cheque for £315 in recognition of the long and valuable services rendered by him to Horsham.

THE LONDON COUNTY COUNCIL AND THE MENTAL DEFICIENCY ACT.

A MEMORANDUM has just been issued by the London County Council to various societies, public bodies, and institutions in the County of London in connexion with the Council's duty of ascertainment of mentally defective persons under this Act. We are asked to give publicity in our columns to the terms of this notice in order that it may be brought to the knowledge of members of the medical profession in London to whom it may be useful to know what is the procedure for the notification of such cases of mental defect as require to be dealt with.

Mental Deficiency Act, 1913.

Under the provisions of this Act, which came into force on April 1st, 1914, the following classes of persons who are mentally defective are deemed to be defectives within the meaning of the Act:—

(*a*) Idiots; that is to say, persons so deeply defective in mind from birth or from an early age as to be unable to guard themselves against common physical dangers.

(*b*) Imbeciles; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so.

(*c*) Feeble-minded persons; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection or for the protection of others, or, in the case of children, that they by reason of such defectiveness appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools.

(*d*) Moral imbeciles; that is to say, persons who from an early age display some permanent mental defect coupled with strong vicious or criminal propensities on which punishment has had little or no deterrent effect.

If, in addition to being a defective as above defined, any person comes within one of the following categories, i.e., if he (or she) is a person—

(i.) Who is found neglected, abandoned, or without visible means of support, or cruelly treated; or

(ii.) who is found guilty of any criminal offence, or who is ordered or found liable to be ordered to be sent to a certified industrial school; or

(iii.) who is undergoing imprisonment (except imprisonment under civil process), or penal servitude, or is undergoing detention in a place of detention by order of a court, or in a reformatory or industrial school, or in an inebriate reformatory, or who is detained in an institution for lunatics or a criminal lunatic asylum; or

(iv.) who is an habitual drunkard within the meaning of the Inebriates Acts, 1879 to 1900; or

(v.) who is a person in whose case such notice has been given by the local education authority as is hereinafter in this section mentioned; or

(vi.) who is in receipt of poor relief at the time of giving birth to an illegitimate child or when pregnant of such child,

such person may be dealt with under the Act.

It is the duty of the London County Council as the local authority under the Act to ascertain what persons within their area are defectives subject to be dealt with under the Act as set forth above, and thereafter to provide suitable supervision for such persons, or, if such supervision affords insufficient protection, to take steps for securing that they shall be dealt with by being sent to institutions or placed under guardianship in accordance with the Act.

The Council is prepared to receive information as to defectives within the County of London who are subject

to be dealt with by the Council under the Act as set forth above. Such information should be given on forms which can be obtained on application to the Clerk of the Asylums and Mental Deficiency Committee, 6, Waterloo-place, S.W.

The Council may if it thinks fit:

(*a*) Maintain in a suitable institution, or

(*b*) contribute towards the expenses of maintenance in such an institution, or the expenses of guardianship of persons who are defective within the meaning of the Act but who do not come within one of the categories of defectives referred to (i., ii., iii., iv., v., or vi.).

Applications for action to be taken by the Council under this provision also should be addressed to the Clerk of the Asylums and Mental Deficiency Committee. Every such application will be considered and dealt with on its individual merits.

The London County Council, it should be noted, has no duties with regard to defectives who for the time being are provided for by boards of guardians or by the Metropolitan Asylums Board (except to the extent prescribed by certain provisional regulations under the Act); or to defective children between the ages of 7 and 16 who are being dealt with by the local education authority.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: J. Shand to the *Victory*, additional, for Portland Hospital; H. W. Finlayson to the *Marlborough*, and P. E. Maitland to the *King Edward VII.*, both for the general staff duties; W. J. Bearblock to Portsmouth Dockyard; W. B. MacLeod to the *Bellerophon*; P. H. Boyden to the *Collingwood*; and E. C. Ward to the *Cornwallis*, on becoming parent ship. Staff-Surgeon: E. S. Wilkinson to the *Marlborough*. Surgeons: J. S. Elliott to the *King Edward VII.*; W. Miller to the *Victory*, additional, for disposal; A. Simpson to the *Victory*, additional, for disposal; A. C. Paterson to the *Fisgard*; D. H. C. Given to the *Vivid*, additional, to be lent to Plymouth Hospital; F. W. Quirk to the *Vivid*, additional, for disposal; H. M. Langdale to the *President*, additional, and for Haslar Hospital, as Anæsthetist and Radiographer; W. Bradbury to the *Pembroke*, additional, for disposal; G. M. Levick, A. T. Rivers, and H. F. Briggs to the *Victory*; and M. P. Fitzgerald to the *Vivid*; A. E. P. Cheesman to the Royal Marine Division, Chatham; F. L. Smith to Pembroke Dockyard; M. F. Caldwell to the *Indus*; E. C. Holtom to the *Excellent*; A. J. Tonkinson to the *Vivid*, additional, for disposal; and J. S. Orwin to the *Vivid*, additional, for disposal.

Fleet-Surgeon George Robert MacMahon has been placed on the Retired List at his own request (dated May 24th, 1914). Fleet-Surgeon Henry Frederick Iliewicz has been placed on the Retired List at his own request (dated June 1st, 1914).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated June 1st, 1914): Percival Davidson, D.S.O., John Mackenzie, Norman D. Walker, Arthur H. Hayes, Henry J. Crossley, Reginald Storrs, Raymond L. V. Foster, Frederick A. H. Clarke, George A. K. H. Reed, John M. H. Conway, Sydney M. W. Meadows, William W. Browne, William D. C. Kelly, and Norman E. J. Harding.

Colonel C. Cooper Reilly has been selected for appointment as Assistant Director of Medical Services to the Chatham District. Colonel R. H. Firth has taken up duty at Cherat Cantonment as Assistant Director of Medical Services. Brevet-Colonel F. Smith, D.S.O., has joined Army Headquarters at Dublin.

Lieutenant-Colonel R. Holyoake has been selected for appointment as Senior Medical Officer in charge of the Military Hospital at Kamptee Cantonment. Lieutenant-Colonel J. J. Gerrard has embarked for a tour of service in the Sierra Leone Protectorate. Lieutenant-Colonel C. Dalton has been transferred from Ireland to the Aldershot Command. Lieutenant-Colonel F. S. Le Quesne, V.C., has been placed under orders for a tour of service in India. Lieutenant-Colonel F. W. Hardy has been selected to hold charge of the Military Hospital at Calcutta. Lieutenant-Colonel F. Caton Jones has taken up duty at Meerut Cantonment.

Major G. T. K. Maurice has been appointed Senior Medical Officer of the Officers Training Corps Camp at Salisbury Plain. Major L. P. More has been transferred from Secunderabad Cantonment to Wellington. Major J. Matthews has been appointed to the Northern Command. Major A. G. Thompson has arrived home from India. Major E. F. Q. L'Estrange has been appointed to the Irish Command. Major H. P. Waller Barrow has been appointed Deputy Assistant Director-General at the Medical Division of the War Office, vice Lieutenant-Colonel B. H. Scott. Major E. E. Parkes has embarked for India. Major P. J. Probyn, D.S.O., has been appointed Senior Medical Officer in charge of the Officers Training Corps at Hagley Park Camp. Major St. J. B. Killery has taken up duty at Lucknow. Major H. K. Palmer has been appointed to the Southern Command. Major J. V. Forrest has taken up duty in the Medical Division at the War Office. Major E. T. Inkson, V.C., has been appointed Deputy Assistant Director of Medical Services to the Wessex Division. Major E. W. Bliss has been transferred from the Chatham District to the Military Hospital at Tidworth, Salisbury Plain. Major A. E. Hamerton, D.S.O., has arrived home for duty from Nyasaland. Major J. T. Johnston has been transferred from Lucknow Cantonment to the Military Hospital at Naini Tal. Major R. Rutherford has joined at Cardiff.

Captain R. Storrs has been appointed to hold charge of the Military Families Hospital at Portland on transfer from Dorchester. Captain C. W. O'Brien has taken up duty at Pirbright. Captain D. M. Corbett has arrived home for duty from Ambala. Captain B. G. Patch has joined at Kirkee Cantonment. Captain W. J. Dunn has been granted six months' general leave of absence home from India. Captain C. W. Holden has taken up duty at the Royal Army Medical College. Captain J. T. McEntire has been appointed to the Cork District. Captain J. A. Turnbull has been transferred from the Military Hospital at Kamptee to Jubbulpore Cantonment. Captain R. J. C. Thompson has been appointed to the Chatham District. Captain W. F. M. Loughnan has arrived home for duty from Aden. Captain F. H. M. Chapman has joined at Delhi. Captain H. C. Winckworth has been transferred to the Quetta Cantonment from Woolwich. Captain C. H. Denyer has arrived home from India. Captain A. C. Elliott has been appointed to Colchester. Captain C. R. Millar has been transferred from Ballincollig to the Military Hospital at Cork. Captain G. O. Chambers has been appointed to the Military Hospital at Alexandria. Captain R. C. Paris has been appointed Specialist in Dermatology and Venereal Diseases to the Fourth (Quetta) Division of the Southern Army. Captain A. G. Jones has been appointed Specialist in Electrical Science and Radiography to the Second (Rawal Pindi) Division in India. Captain S. Field has arrived home from Jamaica. Captain J. M. Weddell has been transferred from the Military Hospital at Fyzabad Cantonment to Delhi. Captain E. B. Lathbury has been appointed to hold medical charge at Kilworth Training Camp. Captain W. K. Beamen has arrived home from Malta. Captain E. W. Vaughan has been appointed to hold medical charge of the Royal Artillery Practice Camp at Okehampton.

Lieutenant R. F. Bridges has been appointed to the staff of the Military Hospital at Cherat Cantonment. Lieutenant D. Reynolds has been transferred from Attock to the Sialkot Brigade. Lieutenant E. B. Allmett has taken up duty at Poona on transfer from Purandhar. Lieutenant T. J. Hallinan has been appointed to the Military Hospital at Mooltan Cantonment. Lieutenant W. L. E. Fretz has been transferred from the Ambala District to Peshawar Cantonment. Lieutenant C. M. Finny has been appointed to the Military Hospital at Barian Cantonment. Lieutenant R. Davidson has been transferred from the Eighth (Lucknow) Division to Meerut Cantonment. Lieutenant E. C. Deane has joined at Agra. Lieutenant J. D. Kidd has been appointed to the Military Hospital at Secunderabad Cantonment. Lieutenant T. E. Osmond has been transferred from the Sirhind Brigade to the Military Hospital at Lucknow Cantonment. Lieutenant W. McNaughtan has joined the Karachi Brigade. Lieutenant W. S. R. Steven has been appointed to the Military Hospital at Quetta Cantonment. Lieutenant R. T. Vivian has been transferred from the Bangalore Brigade to the Military Hospital at Secunderabad Cantonment.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel S. B. Smith has been appointed to officiate as Sanitary Commissioner in the Punjab. Lieutenant-Colonel C. P. Prall has taken up duty as Superintendent of the Central Prison at Lucknow. Lieutenant-Colonel E. P. Maynard has been granted six months' combined leave of absence home from India. The services of Lieutenant-Colonel E. Jennings have been placed at the disposal of the Home Department. Lieutenant-Colonel R. Bird, M.V.O., C.I.E., has been granted six months' combined leave of absence home from India. Lieutenant-Colonel D. H. Graves has taken over medical charge of the 72nd Punjabis.

Major G. P. Groube, medical officer of the 113th Infantry, has been appointed to officiate as Civil Surgeon of Lakhimpur, in addition to his regimental duties, during the absence on special duty under the Government of Bengal of Major W. V. Coppinger. The services of Major J. M. Woolley

have been placed permanently at the disposal of the Government of Burma. Major R. E. Lloyd has been confirmed in the appointment of Professor of Biology at the Government Medical College, Calcutta. Major W. D. Hayward has joined at Madras. Major E. C. Hepper has been confirmed in civil employment in the United Provinces of Agra and Oudh. Major E. O. Thurston has been appointed to officiate as Professor of Surgery at the Government Medical College, Calcutta, and Surgeon to the College Hospital. The services of Major J. Woods have been placed at the disposal of the Government of the Punjab for employment on plague prevention duty. Major W. V. Coppinger has been appointed to officiate as Ophthalmic Surgeon at the Government College Hospital, Calcutta. Major R. M. Dalziel has been granted one year's combined leave of absence home from India. Brevet-Major S. R. Christophers has been appointed to officiate as Director of the Central Research Institute at Kasauli Cantonment during the absence on leave of Major W. F. Harvey. Major V. E. H. Lindesay has been appointed to officiate as Civil Surgeon at Shahabad. Major J. H. Hugo, D.S.O., has been appointed Agency Surgeon at Baghelkhand.

Captain G. S. Husband has been appointed to officiate as Superintendent of the Central Prison at Mooltan. The services of Captain G. Holroyd have been placed temporarily at the disposal of the Government of the United Provinces of Agra and Oudh for employment in the Prison Department. Captain H. C. Keates has been appointed to officiate as Civil Surgeon and Superintendent of the Prison at Attock. Captain A. Whitemore has been appointed Police Surgeon and Pathologist to the General Hospital at Rangoon. Captain E. C. Taylor has taken up duty at Kurram.

ARMY MEDICAL SERVICE.

Surgeon-General Sir William L. Gubbins, K.C.B., M.V.O., is placed on retired pay (dated June 1st, 1914). Surgeon-General Sir Arthur T. Sloggett, C.B., C.M.G., honorary surgeon to the King, to be Director-General, and to rank as Lieutenant-General, vice Surgeon-General Sir W. L. Gubbins, K.C.B., M.V.O. (dated June 1st, 1914).

Colonel Richard W. Ford, D.S.O., to be Surgeon-General, vice Sir W. L. Gubbins, retired (dated June 1st, 1914). Colonel Tom P. Woodhouse, from the half-pay list, to be Colonel, vice R. W. Ford, D.S.O., promoted (dated June 1st, 1914).

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned to be Lieutenants (on probation):—Cadet Lance-Corporal James Melvin, from the Aberdeen University Contingent, Officers Training Corps (dated May 7th, 1914). Cadet William Walker, from the Aberdeen University Contingent, Officers Training Corps (dated May 7th, 1914). Cadet David Murdoch Marr, from the Aberdeen University Contingent, Officers Training Corps (dated May 8th, 1914). Cadet Corporal John McCallum Orme, from the Edinburgh University Contingent, Officers Training Corps (dated May 13th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

North Midland Mounted Brigade Field Ambulance, Royal Army Medical Corps: Captain Arthur C. Goodwin to be Major (dated June 3rd, 1914).

3rd South Midland Field Ambulance, Royal Army Medical Corps: John Percy Ingham Harty to be Lieutenant (dated April 1st, 1914).

Attached to Units other than Medical Units.—Captain William M. Mackay to be Major (dated March 26th, 1914).

Lieutenant Geoffrey S. Hett resigns his commission (dated June 3rd, 1914).

DEATHS IN THE SERVICES.

Surgeon-Major-General Robert Lewer, at Southsea, on May 30th in his 81st year. He received his first commission in 1857, having previously served in the Royal Navy, was appointed brigade-surgeon in 1882, surgeon-colonel in 1886, and retired with the rank of surgeon-major-general in 1895. He served in the Russian war, 1855, and with the Baltic expedition. He was present at the bombardment of Sweaborg (medal), and served in the Afghan war, 1878–80. He took part in the night attack on rear guard of June 6th, 1879, the operations around Kabul and Sherpur, the defence of Sherpur, the march from Kabul to the relief of Kandahar, and battle of Sept. 1st (mentioned in despatches, medal with two clasps, and bronze star).

THE MILITARY SURGEON.

From the May issue of the *Military Surgeon* (Chicago) we learn that the New Field Service Regulations of the United States Army have increased the total strength of a division by 14·74 per cent., but have decreased the relative strength of the medical department from 116 officers and 1006 men to 92 officers and 826 men. The divisional field hospitals are reduced from 4 to 3, but the medical department hopes to increase the capacity of those that are left. A regiment in peace has a combat equipment, litters (carried on ammunition wagons), and an aid station equipment (carried on the regimental pack mule); these always remain with the regiment, even when in brigade, or division, or in war, but the regiment in quarters or training by itself has attached—not assigned—to it a wagon belonging to the divisional sanitary train and marked "Sanitary Train ..... Division." This wagon carries in peace time and on detached service the regimental field hospital. When the regiment joins its division for war this wagon joins the other 11 wagons of the divisional sanitary train. Eight carry the field hospital equipment, the others each carry regimental infirmaries, one practically for each brigade. The "trains" belong to the divisions, "columns" to the line of communications. "Sanitary" service in the United States army, as on the continent, includes all the medical services as well as those specially preventive in function.

Captain Louis C. Duncan gives a very valuable account of the wounded at Ojiinaga (January, 1914) in Mexico, close to the United States frontier. Both the armies were wretchedly equipped, the soldiers filthily dirty; the battles were fought in clouds of dust ("one breathes it and eats it"). There was no sanitary service, apparently no one to care for the "patient, dog-like" wounded. "The Mexican army was a mediæval army in all but firearms," yet of 200 wounded who were received into hospital some three miles from the battle only 10 died. There were no severe cases of pyæmia or septicæmia, none of erysipelas or tetanus. Wounds of spine were fatal; patients recovered astonishingly from wounds of chest and abdomen; there was almost no shock. Captain Duncan was lucky, he thinks, in finding a moving picture man's tent (50 × 25 feet) weighing 800 pounds. It held 45 patients in cots in three rows, was perfectly lighted, being white, and required only two lights at night. The patients who remained had ultimately to be carried 70 miles in wagons. "The Mexican soldier who was wounded was in luck if he had a woman along." One mother did the 70 miles crouching in a wagon beside her desperately wounded boy. They also did the dirty, disagreeable work the men refused to do.

The British is not the only navy short of medical officers. A special Bill has passed Congress allowing a former naval medical officer "on account of his fitness, his excellent record, and the urgent need of more medical officers in the navy," to rejoin with his old position on the list at his retirement six years ago. The officers of the United States Naval Medical Department are very pleased to think that at Vera Cruz their men have suffered less from malaria than those of two other nations lying alongside. This they believe due to their lectures to their men against mosquitoes, screening ports, daily prophylactic doses of quinine, all men down below after dark but those on duty, and they wearing gloves and veils.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 27th. The report stated that the year 1913 marked the 125th anniversary of the foundation of the society, and that a munificent legacy of £37,250 had been received from the trustees of the late Mr. James Brickwell. The income from this legacy—namely, £1331 10*s.* per annum—will be available for the increase of grants to widows over the age of 65 by £25 per annum and under the age of 65 by £10 per annum. Grants under the Copeland Fund may be increased by £20 per annum, and grants to orphans may be increased in certain cases by £15 per annum. The invested funds of the society amount to £139,500, from which sum is derived in interest £4511 10*s.*, and £330 8*s.* was received in annual subscriptions and donations. During the year 1913 the sum of £3760 was distributed among 46 widows and 10 orphans. On Dec. 31st, 1913, there were 46 widows and 13 orphans on the funds. Since the last annual meeting five new members of the society have been elected and seven have died. At the present moment the society consists of 300 members, a very small proportion of the number of medical men who are eligible for membership. This is to be regretted, for the advantages of joining the society are considerable, especially to the younger members of the profession. Membership is open to any registered practitioner who at the time of his election is resident within a 20-mile radius from Charing Cross. Should any member remove beyond the limits of the society he still continues to be a member. The annual subscription is 2 guineas, the payment of this sum for 25 years constituting the subscriber a life member. Further particulars and application forms may be obtained from the secretary, 11, Chandos-street, Cavendish-square, W. A special general meeting of the society will be held on June 24th to confirm the alteration of certain by-laws.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1492.*)

XLVII.—UNANIMITY IN THE BURY ST. EDMUNDS AREA.

FROM Colchester I went to Bury St. Edmunds, taking that city as a typical agricultural centre. The impossibility of staying at more than a certain number of places during such an investigation as that which I was engaged upon forced me to omit, at any rate for the moment, the larger and more commercially important town of Ipswich.

Bury St. Edmunds, the ancient capital of Suffolk and the seat of the new East Anglian bishopric of St. Edmundsbury and Ipswich, is the centre of a division of the British Medical Association which is almost identical with the newly formed Bury St. Edmunds insurance area. Newmarket, on the Cambridgeshire border, is also included in the Bury St. Edmunds insurance area, but the interesting and ancient little town on the Norfolk border, Thetford, has been handed over to the Norfolk insurance area. The West Suffolk insurance area is about the same as the county council area, and much of the insurance work is done in its centre, Bury St. Edmunds. The city of Bury St. Edmunds has a population of 16,785; but the surrounding purely agricultural country is fairly well populated, and there are about 35,000 insured persons in this area, with a panel of 59 doctors. But some of these doctors do not actually reside in the West Suffolk area; they live on the outskirts. Indeed, for eight of them most of their work is not within the area. Such overlapping renders the gathering of statistics very difficult. Every available practitioner went on the panel except one doctor, who could not overcome his antipathy to the new legislation.

How the Act Works in the Bury St. Edmunds District.

At Bury St. Edmunds, as at Colchester, the members of the medical profession were in the negotiation stages of the Act unanimously in opposition. When ultimately they yielded, they attributed the fault to their geographical neighbours rather than to themselves. It was the overlapping of medical practice from other districts that made the Bury St. Edmunds district fear the danger that doctors who had given way elsewhere would overrun the places where the doctors still held out. West Suffolk doctors were afraid of the men of Essex, Cambridge, and Norfolk, just as I had found the doctors at Colchester complaining that they could not rely on the medical profession around them if any continued stand were made. The Insurance Committee are still accused of subtlety in their way of conducting negotiations and of intimidating the local practitioners. A circular was sent round saying the panel would be closed on the ensuing Monday. Then came another circular that it would be closed without fail at 10 in the evening of the following Thursday, but after all the panel was kept open indefinitely. The members of the profession, however, did end by being panic-stricken and then they all went on the panel. Apparently they have been quite satisfied ever since. In any case there is no bickering and friendly relations are well maintained.

Speaking to one of the leading local practitioners, he explained to me that as a result of the Act he had lost some private practice among domestic servants and small tradesmen. But instead of 200 club members at 5*s.* each he had 600 insured persons at 7*s.* each, and this more than covered his loss in private practice. The longest panel list in the area numbers, I ascertained, about 2000; there is a firm with 3000, but it is composed of three partners.

Here, as at Colchester, the members of the old clubs have remained faithful to their original club doctors. But it was pointed out to me that the abuses for which club practice has become notorious did not prevail at Bury St. Edmunds. This bears out a remark of mine, which I understand has been criticised, that now and again the old medical aid associations worked without injustice. There were no bad clubs in this district paying 2*s.* 6*d.* or 3*s.* per head per annum for all sorts of medical attention and drugs. On the contrary, instead of such monstrous capitation fees or even the usual 4*s.* the sum generally subscribed was 5*s.* a year, and the members of the clubs did not complain of carelessness on the part of their medical officers. On the other hand, I could find no evidence that the Act had done anything that enabled insured persons to obtain better treatment than they were in the habit of receiving as members of clubs and Friendly Societies.

That being the case, there are a certain number of small tradesmen and others who would much prefer paying fees than to be treated as contract patients under the Act. But if they are willing to pay medical fees they are not willing to pay income-tax, and therefore they have enrolled themselves under the Insurance Act, as a proof that they are below the attention of the Income-tax Commissioners. As an instance in point, I was told of a youth of the neighbourhood who, accompanied by members of his family, called on his panel doctor, when a long examination and consultation ensued in regard to a nasal polypus. After much discussion it was decided that the youth should go to London to have the polypus removed. The panel doctor naturally felt it rather hard that this 7*s.* a year patient, after giving him so much trouble, should pay a fee to some London surgeon which would amount to at least 5 guineas; the inevitable question was whether a patient who could on occasion find such sums of money was fairly within the contemplation of the scheme of the Act. The incident is related not as an individual case, but as one of many showing that insured persons are often well able to pay the usual medical fees.

In the Bury St. Edmunds district the calling on insured servants was brought to my attention as being often a troublesome duty for panel practitioners; such visiting entails a greater sacrifice of time than should be expected for contract work. As a rule, not only has the servant to be seen, but the servant's mistress then wants to know all about the case. She asks whether she ought to keep the servant in the house, how long the illness is likely to last, and is it necessary to get another servant. To discuss all these points may take up a long time, while irksome questions of duty in the matter of professional confidence may always arise. But the panel practitioner cannot cut such interviews short for fear of losing as private patients the family employing the servant.

Attempt to Avoid Election of Panel Committee.

In regard to the Medical Committee and the Panel Committee I found the position at Bury St.

Edmunds somewhat similar to what I had seen at Colchester. The action of the medical profession in regard to these bodies has been firm and very unanimous. Indeed here, as elsewhere, the agitation in regard to the Act has done much to weld the profession together. At the outset hostility to the Act was such that when the Insurance Committee first appointed its Medical Benefit Subcommittee there was not a single medical man on it. After a while, however, not only was a medical man secured for this committee, but eventually a practitioner of Bury St. Edmunds who had taken a very prominent part in the organisation of the profession was selected. Fortunately, the shortage of medical men on the subcommittee led to no trouble. Though the Act has been in force for more than a year, no complaint whatsoever has been made against any doctor in the area.

The Local Medical Committee was constituted on March 13th, 1913. Twelve members were elected. The one doctor who, though in active practice, refused to go on the panel, was unanimously elected on the Medical Committee. Another doctor who is also not on the panel, but who is not in active practice, was likewise elected to the Medical Committee. The remaining ten members of the Medical Committee are all panel doctors. It will be seen, therefore, that efforts were made to secure the representation of every possible interest on the Medical Committee. But the new regulation insisting on the election by panel doctors only of a Panel Committee produced difficulty. At Bury St. Edmunds no one wanted this committee, as, with but the two exceptions mentioned above, it would be a mere duplication of the Medical Committee. However, there is a clause which says that where no Panel Committee is formed the Commissioners might recognise any existing committee. Therefore nothing was done, and after waiting till the last day for electing a Panel Committee had passed the Commissioners were written to and invited to recognise the Local Medical Committee as the best existing committee. The Commissioners, however, refused to see the matter in the same light. Though the date for electing a Panel Committee was passed they insisted that such a committee should be elected. An inspector even was sent down by the Commissioners a little before Christmas (1913). Then 20 nomination forms for the Panel Committee were sent to the secretary of the Medical Committee. Thereupon a general meeting of the profession was convoked, and they proceeded to elect a Panel Committee on their own lines.

Funds for Medical Organisation Secured by Law.

The problem has arisen in many places whether the profession shall go through the form of keeping both the Medical and the Panel Committees in existence. In this matter the financial aspect of the question has also to be considered. The Medical Committee has no other resources save that of voluntary levies paid by its members. The Commissioners seem desirous of doing away with the Medical Committees, so as to give all the power to the men who are working the Act, but at Bury St. Edmunds it is the same men who are on both committees, a position that has arisen elsewhere and is bound to continue to arise. The Commissioners will not effect any real change if the Medical Committee does cease to exist. The Medical Committee met 24 times last year. This means sending out notices, keeping a book of minutes, and a good deal of work which generally has to be done by one or two devoted members. Such work ought not to be gratuitous, and the Panel Committee have powers to make a levy.

From all this there arose the present very interesting situation. Throughout the country there are many insurance areas where practically all the medical men in active practice are on the panel. This is notably the case at Southend, Colchester, and Bury St. Edmunds, the last three places I have visited. It does not mean that the Insurance Act was readily accepted; on the contrary, a very stout and unanimous resistance was made. The fact that all the doctors are on the panel only means that, as the Act could not be prevented, it was best to control its operations as far as possible. Now that official Panel Committees have been created this is much more easy than formerly. Formerly the great difficulty was the want of money to pay secretaries and working expenses generally. But to-day the Panel Committees have powers to make compulsory levies—that is, to deduct a halfpenny or more from the floating sixpence: money thus obtained only to be spent for administrative purposes and in a manner approved by the Commissioners. The latter, however, cannot exercise any control whatsoever over a voluntary levy. On the other hand, a good many practitioners might object to pay the levy. But the position is quite changed. The practitioner can hardly avoid a levy now; he can only decide which sort of levy he prefers—a compulsory levy imposed by the Panel Committee with the money so raised controlled by the Insurance Commissioners, or a voluntary levy of about the same amount, but which the subscribers would themselves control and spend in the way they thought best.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Liverpool Hospital for Consumption and Diseases of the Chest.

THE fiftieth annual report in connexion with the Liverpool Hospital for Consumption and Diseases of the Chest, which was presented at the annual meeting held recently, showed that the hospital in Mount Pleasant and the sanatorium at Delamere Forest are fulfilling an important and beneficial work for the community. The Lord Mayor, who presided, moved the adoption of the report. It was to be regretted, he said, that the resources of the laboratory attached to the hospital could not be utilised to their fullest extent owing to financial difficulties. The Government had appointed a medical research committee to direct research into the problems connected with tuberculosis. There were funds available for the purpose, but up to the present no grants had been made. State aid was not forthcoming, and the scientific study of tuberculosis, which was a national question, was left to private endeavour and philanthropic effort.

School After-care.

The chief subject of discussion at the last meeting of the Liverpool education committee was a suggested change in the method of ensuring the after-care of children. It was proposed that the

control of this work should be transferred from the control of the medical officer of health to the school attendance and care subcommittee. Dr. J. G. Moyles said that nobody had done more for the health of the school children than the schools medical officer (Dr. E. W. Hope), and yet the education committee without consulting Dr. Hope proposed to take out of his hands the following up and taking care of school children. The change was strongly opposed by several members, but was eventually approved.

Death of Mr. T. Moore Dawson.

I regret to announce the death of Mr. T. Moore Dawson, L.R.C.P. & S. Edin., one of the best-known medical practitioners in the city. Mr. Dawson had been in failing health for the last two years, and had recently retired to Hooton, where he died in his sixty-first year. He was for many years surgeon to the A and C Divisions of the Liverpool Police Force. He will be best remembered for his untiring energy in connexion with the Volunteer movement, for which he was awarded the V.D., finally rising to the command of the 2nd Field Ambulance, R.A.M.C., and the further distinction of A.D.M.S. of the West Lancashire Division. For the past 30 years he was closely connected with the St. John Ambulance Association, and he received recognition of his services by his appointment as an Associate of the Order of St. John of Jerusalem in England. As a judge in ambulance work and competitions he was greatly in demand.

June 2nd.

WALES.

Welsh Memorial Sanatorium.

ABOUT a year ago the Welsh Memorial Association purchased an estate and mansion near Talgarth at a cost of £15,600. It is about 600 feet above sea-level and looks out upon the Black Mountains and the Breconshire Beacons. The house has been occupied by patients for some months, but it has been decided to enlarge the accommodation at an additional cost of over £50,000. When the new buildings are completed there will be accommodation in the institution for 300 patients.

Coal Dust as a Nuisance.

The inhabitants of colliery districts have hitherto put up with the discomfort connected with residence in these localities and have apparently considered that they have no redress against the clouds of coal dust which are emitted from the surface workings. It is possible that they may not in the future be so complacent, for a butcher in the Pontardawe district has succeeded on appeal in obtaining an injunction against a colliery company, the coal dust from whose colliery was alleged to have been a serious nuisance to his slaughter-house, sausage factory, and stables.

King Edward VII. Hospital, Cardiff.

In spite of the large additions which have been made of late years to the Cardiff Hospital they have never been sufficient to cope with the number of patients eligible for admission. This has been partly due to the fact that although new buildings have been erected and wards have been equipped, the board of management has not been able to fill the beds provided owing to lack of funds for their daily needs. This very prudent course needs to be adopted no longer, and it has been decided that the last 50 beds available shall be placed at the disposal of the waiting patients. There are now provided at the Cardiff Hospital enough beds to justify the General Medical Council in recognising it for the purposes of a complete medical school, in connexion with which a sum of £60,000 has been promised to complete the school buildings conditionally on the Treasury making a sufficient grant for the maintenance, administration, and upkeep of the school. In addition to this sum Sir James Thomas, a colliery proprietor in the Rhondda Valley, has contributed £30,000 for the establishment of a physiological department.

Supply of Radium for Swansea.

The need for a supply of radium has recently been urged upon the board of management of the Swansea General Hospital by the members of the medical staff, and the question has been seriously discussed by the board, with the result that it has come to the conclusion that the expenditure involved is greater than it would be justified in recommending. In these circumstances it has been decided to form a limited liability company with a capital of £1500, for which sum 100 mgm. of radium can be obtained. The scheme, as outlined by two members of the medical staff, Mr. W. F. Brook and Dr. R. C. Elsworth, provides for the charge of a fee of £5 5s. a day for the use of the radium. It is anticipated that it may be required outside the hospital on at least 100 days during the year, so that after the lapse of two or three years the whole of the capital together with interest can be refunded to the shareholders, when it is intended that the radium shall be handed over to the hospital authorities.

June 2nd.

SCOTLAND.

Notification of Tuberculosis in Scotland.

IN accordance with the Public Health (Scotland) Act, 1897, the Local Government Board at Edinburgh has issued to local authorities copies of Regulations providing for the compulsory notification as from July 1st next of cases of tuberculosis in Scotland. These Regulations provide for notification of all forms of tuberculosis and supersede those made by the Board two years ago for notification of pulmonary tuberculosis alone. Local authorities are instructed to send a copy of the Regulations to each medical practitioner in their districts. The Regulations follow closely the form and requirements of the earlier Order, except that notification is now required of cases of non-pulmonary tuberculosis as well as of pulmonary tuberculosis. Notification is to be made on the strength of evidence other than that derived solely from the tuberculin test. A notification fee of 2*s.* 6*d.* is payable to a medical practitioner in respect of each case occurring in his private practice, and 1*s.* if the case occurs in his practice as medical officer of any public body or institution, but no fee is payable to school medical officers. In so far as the new Regulations touch upon the work of school medical officers they have the concurrence of the Scotch Education Department.

Report of Lunacy Commissioners.

The Commissioners in Lunacy for Scotland have just issued their annual report. They state that on Jan. 1st last there were in Scotland, exclusive of insane persons maintained at home, 19,346 insane persons of whom they had official cognisance—an increase of 158 upon the previous year's total. The

admissions into establishments during the year 1913 numbered 3682.

Housing Conference in Glasgow.

On May 26th and 27th a conference of representatives of Scottish local authorities was held in the Glasgow town hall to consider the practical administration of the Housing and Town Planning Act of 1909. Sir Thomas Hunter, town clerk of Edinburgh, presided. Among those who took part in the proceedings was Mr. T. McKinnon Wood, Secretary for Scotland.

A Convalescent Home for Mothers and Infants.

The Broomfield Convalescent Home for Mothers and Infants was formally opened on May 30th by Mrs. Pearce Campbell in the unavoidable absence through illness of the Countess of Eglinton and Winton. This home has been founded by Mr. A. F. Yarrow for the treatment of recently confined women and their infants. It is situated in six acres of ground upon the shores of the Gareloch at Shandon. The home is under the care of Professor Robert Jardine, of Glasgow, and Dr. Leonard Findlay, physician to the Glasgow Royal Hospital for Sick Children. Each mother received into the home is entitled to remain for a fortnight. All the rooms were occupied by patients with their infants on the date of the opening ceremony.

Death of Professor George Dean.

I regret to announce the death on May 30th of Dr. George Dean, Regius professor of pathology in the University of Aberdeen. Professor Dean was 50 years of age and had held the chair of pathology for the past six years. He was a native of Aberdeenshire and a former student in the University of Aberdeen, graduating M.B. and C.M. with honours in 1889. He studied bacteriology in Berlin and Vienna. In 1897 he was appointed bacteriologist in charge of the serum department of the Lister Institute in London, and later became chief bacteriologist to the Institute.

Aberdeen Sanatorium and Central Dispensary.

The proposed scheme for a central city dispensary in Aberdeen, to be constructed in Golden-square, has received the sanction of the Local Government Board and of the National Insurance Commissioners, and the report in connexion with this and with the proposed joint sanatorium was passed at a meeting of the Aberdeen county council held on May 29th.

The Parkin Prize.

The triennial Parkin Prize of £100, in the gift of the Royal College of Physicians of Edinburgh, has been awarded to Dr. H. J. Johnston-Lavis. The subject set was: On the Effects of Volcanic Action in the Production of Epidemic Diseases in the Animal and in the Vegetable Creation, and in the Production of Hurricanes and Abnormal Atmospherical Vicissitudes. Dr. Johnston-Lavis for some years held the professorship of vulcanology in the Royal University of Naples.

June 2nd.

IRELAND.

Delegates' Meeting of the Irish Medical Profession.

A MEETING of delegates of the entire medical profession of Ireland was held last Tuesday in the Royal College of Surgeons, under the presidency of Mr. P. J. MacNamara. Each county and county borough was represented by five delegates. The report of the Irish Medical Committee was first read. It related the efforts made by the committee to come to an agreement with the Insurance Commissioners on a scheme for certification of insured persons, and their failure. The delegates decided to re-appoint the Irish Medical Committee with the same constitution, duties, and powers as before. Certain changes in the financial arrangements of the committee were recommended. The delegates passed the following resolutions: (1) reiterating the opinion expressed by two previous annual meetings of delegates that all medical certificates should be issued by the medical attendant, and (2) that any system whereby the primary certification of patients for sanatorium benefit is relegated to salaried officials to the exclusion of the medical attendant would prevent the discovery of early cases and their efficient treatment.

Conversazione at the Royal College of Surgeons.

On Friday evening, May 29th, the President of the Royal College of Surgeons and Miss Purefoy entertained a large party of guests at the Royal College of Surgeons to meet the Lord Lieutenant of Ireland and the Countess of Aberdeen. The military uniforms and academic costumes of the guests made an imposing spectacle in the beautifully decorated large hall. Refreshments were served in the library, and the orchestral band of the Royal Irish Constabulary, with songs by the Misses Purefoy and Mr. W. S. Haughton, provided entertainment.

Royal Medical Benevolent Fund Society: Belfast Branch.

At the annual meeting of the Belfast and District Branch of the Royal Medical Benevolent Fund Society of Ireland, held in the Medical Institute, Belfast, on May 22nd, it was reported that the net contribution of the branch was £139 13s., a reduction of 10 guineas as compared with the previous year. The report stated that "an amount of apathy unhappily existed amongst a proportion of the medical practitioners in the district, who do not seem to consider this charity, the only one confined to the profession in Ireland, worthy of support." In Belfast 140 out of a total of 224 practitioners alone subscribe, but Belfast is not the only place in Ireland where the same state of affairs exists.

Ulster Medical Society.

At the annual meeting of the Fellows and Members of the Ulster Medical Society, held in the Medical Institute, Belfast, on May 28th, the following officers were elected for 1914–15:—President: Dr. J. S. Morrow. Vice-Presidents: Dr. John Rusk and Dr. A. E. Knight (Donaghadee). Council: Dr. A. G. Robb, Dr. J. C. Rankin, Mr. P. T. Crymble, Mr. T. A. Davidson, Mr. R. Reid (Whiteabbey), and Mr. John O'Doherty. Honorary treasurer: Mr. H. Stevenson. Honorary librarian: Dr. W. L. Storey. Honorary secretary: Dr. S. T. Irwin. Honorary editorial secretary: Dr. C. G. Lowry.

Antivaccination Campaign in Belfast.

The Belfast Poor-law elections have resulted in the complete rout of the antivaccination party, not one of whom has been returned. Indeed, with one exception they made a very poor show at the polls. One of the unsuccessful candidates issued a poster calling upon the electors to vote for himself and liberty.

Royal Victoria Hospital, Belfast.

The annual street and house-to-house collection

in aid of the Royal Victoria Hospital took place on May 30th, and the total returns amounted to £684, which is an increase of over £100 from the districts concerned. Twenty-five districts have still to make returns, and it is expected the total this year will be close on £1200.

Death of Mr. Edward Taylor.

I regret to announce the death, at his residence, Bessmont Park, Monaghan, on May 24th, after a few days' illness, of Mr. Edward Taylor, L.R.C.P. & S. Irel. Mr. Taylor was formerly resident medical superintendent of the Cavan and Monaghan lunatic asylum at Monaghan; but some years ago was compelled by failing eyesight to resign. Within the last few years he became totally blind. Mr. Taylor studied medicine at the College of Surgeons School in Dublin, and qualified in 1869 as L.R.C.S., and in 1870 as L.R.C.P. He was held in very high esteem all around Monaghan. He leaves a widow and a son of 15 years.

June 2nd.

PARIS.

The Congress of Practitioners.

I REFERRED last week to this Congress, which was meeting at the time of writing, under the presidency of Dr. Gairal. It lasted four days. The question that occupied most time dealt with the number of representatives of the medical syndicates that would be accepted by the Minister of Labour for the commission created to regulate the differences relating to contracts between the mutual aid societies, and such like, and the medical men employed by them. Dr. Léon Labbé, the well-known surgeon, who is also a senator, made known on the part of the Ministry at the beginning of the Congress that the number of medical representatives in the grand council, which was originally three, would be raised to six. Dr. Le Fur and a large contingent of the Assistance Publique were for absolute refusal, in opposition to the Minister, that any member of the syndicates should take part in this commission. M. Hartmann and M. Netter advocated the view that medical men should take part in this commission, so as to know what took place there and to oppose as far as possible measures detrimental to the medical practitioners and to resign if they did not succeed. The Congress upheld Dr. Le Fur and named a delegation of 30 members to approach the Minister of Labour and make known to him the abstention of the syndicates. It also voted for a complete separation between practising medical men and those charged with official duties or administrative work, officialism being incompatible with the preservation of professional secrecy, the free choice of doctor by the sick, and freedom in the matter of fees. The Congress then adopted the conclusions of a remarkable report by Dr. Jacques Bertillon, calling urgently for the prosecution of the struggle against alcoholism, the cause of so much crime, madness, degeneration, and sterility.

The Congress of Forensic Medicine.

The Fourth Congress of Legal Medicine for the French-speaking medical profession took place recently at Paris under the presidency of Professor Guilhem, of Toulouse. Pleuro-pulmonary tuberculosis of traumatic origin was one of the principal subjects considered. M. Georges Brouardel, nephew of the late renowned authority on medical jurisprudence, presented a noteworthy report. Dr. Simonin, the delegate of the Minister of War, dealt with the same subject as regarded its application to soldiers. Communications were also made by M. Corin and M. Stokis on cadaveric phenomena; by M. Dufour on survival after wounds of the heart; by M. Régis and M. Martin on the necessity for a medical examination of young prisoners; by M. Ménard on fractures of the neck of the femur which permit of walking; by M. Du Bousquet on the possibility of recognising the medical man in attendance as a medico-legal expert on behalf of his patient; and by Dr. Gilbert Ballet on the validity of the wills of subjects of melancholia. Some curious cases were reported; a suicide by self-strangulation with the hands was narrated by M. Mégerand, and a case of spontaneous muscular rupture by M. Ribierre. M. Minet and M. Cordoniner spoke on the use of the polarising microscope in legal medicine, and M. Etienne Martin, of Lyons, on the possibility of crying out and speaking after wounds of the larynx and the lungs. M. Nicloux demonstrated the working of a remarkably simple apparatus of his own invention for determining the amount of carbon monoxide contained in the blood after poisoning by this gas. The next meeting was fixed for May 15th, 1915, at Liége, under the presidency of M. Corin, professor of legal medicine at the university.

The Opposition to Antityphoid Vaccination in the Personnel of Hospitals.

In my letter in THE LANCET of May 23rd I referred to this subject. M. Mesureur, director of the Assistance Publique of Paris, has justified before the Académie de Medecine the measures taken by him with regard to his own personnel, which includes more than 8000 male and female nurses, constantly exposed to contagion by soiled linen, dejecta, and other objects. In ten years more than 300 such persons contracted typhoid fever during their service, furnishing a mortality of 12 per cent. Antityphoid vaccination began in 1912, and was first administered to the personnel of the nursing school. At present there are two vaccinating centres in Paris for the hospital personnel, one for women at the Salpêtrière, the other for men at the Saint-Antoine. Up to date 1064 employees have been immunised and more than 4000 injections made without any accident. According to M. Mesureur, the opposition made by the syndicate is only the work of agitators, who on the least pretext thrust themselves into every conflict with the administration. All the academicians approved these views. M. Chantemesse, M. Vincent, M. Netter, and M. Chauffard took up the defence of anti-typhoid vaccination. M. Chauffard particularly cited the case of a male attendant in his service, whom he had hesitated to vaccinate because the man was affected at the time with a cervical adenitis, which gave rise to fears of unfitness for this procedure. But he had speedily to regret it, for the man contracted typhoid fever and died. Up to the present time, however, it was shown that the vaccination had never been made compulsory on the personnel of hospitals, but had been voluntary. Only the candidates for a post on the nursing staff find it required of them. The discussion will now probably cease.

June 2nd.

INDIA.

India's Sanitary Progress.

THE Government of India will shortly publish a general review of sanitary progress in India in which its policy in this respect will be defined.

Tuberculosis in India.

Dr. A. C. Lankester, of the Peshawar Medical Mission, has been selected, under arrangements of the Indian Research Fund, to conduct inquiries in connexion with the prevalence of tuberculosis in India.

Calcutta Health Officers.

The general committee of the Calcutta corporation has decided that in respect of one of the appointments the maximum pay of the grade—viz., Rs.700 per month—be offered to a specially qualified candidate with practical experience who will be capable of acting as health officer, and will be required to sign an agreement to remain in the service for at least five years. Thirty-two applications have been received. The health officer has examined the applications, and has given his opinion as to the three best qualified candidates. It was resolved that the question of selection be referred for consideration and report to a subcommittee.

The Milk-supply of Calcutta.

A report just published by the chemical examiner to the Government of Bengal shows that the authorities at certain hospitals had a good deal of trouble with their milk-supply last year. But Calcutta has not only to complain of an unsatisfactory supply of fresh milk. The Bengal Chamber of Commerce has been concerning itself with the inferior quality of some of the condensed milk that is supplied in tins, alleging that before condensing the manufacturers skim off the cream. Last year the Government of India decided that all condensed milk imported into India, which analysis showed had been prepared from a milk containing less than 3 per cent. of fat, should be marked "prepared from skimmed milk"; and, further, that the condensed milk should contain a higher percentage of fat in proportion to the degree of concentration, 3 per cent. of fat being the proportion of uncondensed milk. It is now proposed to revise the system so that the classification of condensed milk should be based on a fixed percentage of fat for each tin. It is proposed to allow a minimum proportion of 12 per cent., and in cases where this amount is not reached the tins should be marked "prepared from skimmed milk."

Water Famine at Bombay.

Bombay is just now passing through a season of water famine. The irregular supply of water is causing great hardship. The cotton fires at Colaba have drained a large quantity of the reserve during the last month and are the chief source of deficiency.

Paying Patients in Indian Hospitals.

The Government of the United Provinces has decided upon a step in the right direction which was bound to be made sooner or later, and one which it may be safely assumed the other provinces will eventually follow. That which is given away is never appreciated at its proper value. The United Provinces Government has therefore resolved to give the people of those provinces the opportunity to realise fully the benefits of Western medical science and skill by making them pay for it. The important resolution notifying this fact will be read with interest in the Punjab, where the subject is no new one. The resolution points out that hospitals wholly or in part supported by public funds are not, and never were, intended for the relief of patients who can afford to pay for the treatment they receive, but for the poorest classes only, and quotes a Government Order as far back as 1886 in proof thereof. Hitherto Government has contented itself with the enunciation of this principle, deterred from its enforcement by the practical difficulty of differentiating between patients who can and cannot afford to pay, and also through fear of doing anything to hinder the growing popularity of the Western system of medicine and medical treatment. Attendance at hospitals and dispensaries in the United Provinces, however, has increased at such a rate of recent years that the practical difficulty of differentiation, if differentiation is insisted upon, is now overshadowed by the still greater practical difficulty, if it is not insisted upon, of the medical institutions of the provinces being unable to cope with the burden placed upon them. In the words of the resolution, unless measures are taken to prevent those who can afford to pay resorting to public hospitals, then "it may before long be beyond the power of the Government to provide adequately for the helpless and indigent who have the first claim on a form of public charity which is a direct charge on the general taxpayer"; and "in the opinion of the Government the interests alike of the public funds and of the private practitioner demand that action should be no longer delayed." The resolution then refers to recommendations made by the committee of inquiry under the presidency of Lieutenant-Colonel J. K. Close, I.M.S., in its report received by Government last November. The committee recommended that in all hospitals and dispensaries to which a medical officer of not lower rank than an assistant surgeon is attached action should be taken to prevent the admission of well-to-do patients and members of their families to the benefits of free medical attendance, and urged that conspicuous notices should be posted in prominent places to the effect that the hospital or dispensary is a charitable institution and is intended only for the treatment of the poor. The Lieutenant Governor, the resolution announces, finds himself in agreement with the general tenour of the committee's findings, and action on these lines is to be taken. As is pointed out, this new departure can only be made effective with the coöperation of local bodies, by whom the majority of medical institutions are maintained or aided, and it is confidently anticipated that they will see the desirability, in their own interests, of coming into line with State-aided and State-maintained institutions. There is, very wisely, to be one important exception to the policy of enforced payment—in the Dufferin Hospitals no charge is to be made, it being considered undesirable to do anything that might jeopardise the slow-growing popularity of medical relief for women.

Sanatorium for Consumptives.

The Bihar and Orissa Government is looking for a suitable site for a sanatorium for consumptives. The claims of Hazaribagh and Ranchi were first considered, but judgment was pronounced against them, and the Government is now looking for a site outside the province. Naini Tal in the United Provinces and Dharampur in the Punjab have each

been advocated, but with such an arrangement the Biharis do not concur while there are such healthy localities as Puri, Deoghur, and Koilwar to be found in the province.

Precautions Against Plague at Travancore.

The native State of Travancore is one among the few places which have not yet had a serious outbreak of plague. Of late, however, much anxiety has been felt that it might at any time make its appearance owing to the fact that the surrounding country, especially Coimbatore and Ceylon, are infected. The Travancore Darbar are taking all precautions. Any person arriving from an infected area is subjected to a medical examination for ten days from the date of arrival. A special staff has recently been appointed for this purpose.

Sanitation in Lahore.

In a letter to the papers Mr. C. A. Owen, the officiating health officer of Lahore, says that the system of subsidising zemindars to carry away the excreta of the town and civil station is faulty in the extreme, and that it is not possible to dispose of it in this way without grave effects on the health and comfort of the inhabitants. The filth drops on the road and merges with the dust. Then a breeze or a passing motor whirls the contaminating material into the nose, eyes, and mouth of every passer-by. It is not enough that every householder should see to the cleanliness of his own little sanitary department. That will not meet the case as long as the stuff has to be carried away by human agency. What is required is a system that will carry away all excreta directly before it is deposited in depôts. Such a system is the only sure safeguard, as other measures must fall short of efficiency.

May 7th.

AUSTRALIA.

Federal Quarantine.

Dr. J. H. L. Cumpston, the Director-General of Quarantine, has published by direction of the Minister of Customs a pamphlet defending the system of quarantine adopted in Australia. It is claimed that the practice is based on the procedure followed by all the leading European nations and America.

Small-pox in Sydney.

Considerable dissatisfaction has been expressed at the announcement made by the New South Wales Board of Health that in future small-pox contacts would not be isolated at the quarantine ground, as it was unable to find accommodation. At a conference last November it was agreed by the various States that quarantine should be lifted from Sydney if patients and contacts continued to be isolated. The quarantine station belongs to the Commonwealth, and it recently notified the State Board that contacts must be housed elsewhere. The board replied by the intimation that it could not isolate them at all. A statement has been made by Mr. Groom, Federal Minister of Customs and Quarantine. He said that the State officials had been informed some months ago that the station would be required for overseas cases of disease, and the arrival in the meanwhile of two mail steamers with small-pox patients had compelled the Commonwealth authorities to insist on the removal of contacts sent from inland. The whole history of the Sydney epidemic discloses the unworkable nature of the present system of quarantine in which authority is divided between two sets of officials. Dr. R. T. Paton (the State Director of Public Health in New South Wales) has frankly admitted there is a breach of the agreement with other States, but says there is no place where contacts can be isolated and that his State finds it impossible to keep its agreement. The epidemic in Sydney has never completely disappeared, and within the past few weeks cases have been discovered in various parts of the suburbs in increasing numbers. The Acting Premier of Queensland has asked the other State premiers to urge a consideration of the matter.

Melbourne Medical School Jubilee.

The ceremonies arranged for the celebration of this event were inaugurated on April 29th by a dinner at the Grand Hotel. The Governor of Victoria (Sir A. Stanley) presided over a large gathering, and various congratulatory speeches were made. The toast of "The Medical School" was acknowledged by Sir Henry Allen, and that of "Our Guests" by Sir Hartmann Just, of the Colonial Office.

Melbourne Hospital.

The last return issued for the quarter ending March 28th shows that the expenditure had increased over the corresponding period of 1913 by £2238. The members of the committee were considerably surprised to find such a marked increase, and some of them were alarmed. The chairman stated that a large part of the increase was represented by wages, as there had been numerous additions to the staff. It was resolved that a statement should be submitted giving the number of patients treated in the two periods.

Death of Dr. John Williams.

The death was announced on April 21st of Dr. John Williams, one of the oldest physicians of Melbourne. The late Dr. Williams, who was Welsh by birth, was a graduate of Edinburgh University, and came to Melbourne in 1870. He was soon after appointed outdoor physician to the Melbourne Hospital, and from that time till 1904 was an active member of the staff, afterwards becoming indoor physician. In 1904 he retired and was made consulting physician. Dr. Williams had a singular gift for clinical teaching, and his name was a byword with generations of students at the Melbourne Hospital. He was also for some years lecturer on materia medica at the Melbourne University. He enjoyed a large practice as a consultant, and his reputation in his day was very high as a skilful and sagacious physician. He was president of the Medical Section at the first Australasian Medical Congress and for many years a member of the University Council.

April 30th.

EDUCATIONAL REFORM.—A large number of societies interested in education will take part in the educational conference to be held at London University on June 18th, 19th, and 20th, among them being the Ratan Tata Foundation of the University of London and the School Medical Officers' Association. The speakers will include Mr. N. Bishop Harman, who will deal with vision as affected by type in school books; and Dr. J. Kerr, research officer, London County Council, who will take for his subject the ventilation of schools. Dr. J. Letitia Fairfield, assistant medical officer to the London County Council, will also speak, and Mr. J. L. A. Paton, the headmaster of Manchester Grammar School, will open a discussion on Sex Instruction.

Obituary.

ROBERT MUSGRAVE CRAVEN, M.R.C.S. ENG., L.R.C.P. EDIN., D.P.H. CAMB.

Robert Musgrave Craven, who died suddenly at Southport on May 17th, was medical officer of health for the combined county districts of Westmorland. He was the son of the late Robert Craven, F.R.C.P., J.P., and was born in 1851 at Rothwell, near Leeds. His family removed to Southport while he was a boy. He studied at London, Edinburgh, and Liverpool, and qualified as M.R.C.S. Eng. and L.R.C.P. Edin. in 1873. In 1886 he took the Diploma in Public Health at Cambridge after an examination in which very few of a large number of candidates succeeded. Before entering on private practice at Southport he was resident surgeon at Worksop Dispensary; and he became later one of the honorary medical officers of the convalescent home at Southport. He took an active interest in the affairs of the town, and was well up in postal and railway matters, but he was never a candidate for municipal honours.

A colleague writes: "Mr. Craven was too frank and outspoken to make a conspicuous financial success of private practice, for he never hesitated to tell his most remunerative patients when their troubles were the result of their own indiscretion, and that they could remove them if they would without the aid of a physician. In 1889 he was appointed medical officer of health for the Westmorland combined districts, which include the whole of that county with the exception of the urban district of Kirkby Lonsdale, and he entered into his duties with a zest that never wore off. His cheerful manner and obvious sincerity enabled him to deal firmly with the owners of insanitary property and yet leave in their minds no sense of injury or of having been treated in any way but what was right and necessary, and he thus obtained great results with little friction.

Mr. Craven was one of the most efficient medical officers of health in the country. As he seldom attended medical or public gatherings of late years he was but little known to the younger members of his branch of the profession, who were sometimes surprised to find the high estimation in which his opinion, always severely practical, was held by their colleagues who were well acquainted with him."

On the formation of the Sanitary Corps of the Territorial Force he was offered and accepted a commission as major *à la suite*. He has left a widow, one son, and two daughters.

ARTHUR AUGUSTUS CÆSAR, L.F.P.S. GLASG., L.S.A. LOND.

THE death occurred at Pevensey, Sussex, on April 20th, of Mr. Arthur Augustus Cæsar, at the age of 74. He had resided at Pevensey for a good many years since his retirement from strenuous public service in the metropolis, where for 35 years he was a Poor-law medical officer of Mile-end. For nearly 20 years he was resident surgeon of the East London Children's Hospital, and for some time was the resident medical officer of the Tower Hamlets Dispensary. Mr. Cæsar was a native of Cork, being the fourth son of Dr. Henry Augustus Cæsar, principal of the Cork School of Medicine. He pursued his medical studies at Cork and at the London Hospital, and became a Licentiate of the Faculty of Physicians and Surgeons in Glasgow in 1866, and a Licentiate of the Society of Apothecaries, London, three years later. His death is sincerely mourned at the pretty little Sussex township, where Mr. Cæsar was a warm supporter of the various charitable institutions.

Correspondence.

"Audi alteram partem."

INTRAMUSCULAR INJECTIONS OF QUININE.

To the Editor of THE LANCET.

SIR,—In reply to the letter of Sir Ronald Ross in your issue of April 4th, 1914, I should like to make a few remarks on the subject of intramuscular injections of quinine. Your correspondent states that it has been shown that quinine is absorbed with very great difficulty from muscle and subcutaneous tissue, yet the experiments of Sir David Semple seem to me to show the reverse. This writer in his article on the Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinine says: "When large doses of quinine are given hypodermically to rabbits and guinea-pigs, they rapidly come under its influence, and death takes place in a few hours." He further states: "In the case of rabbits the lethal dose by the stomach would at least be double the hypodermic lethal dose." Surely one would infer from this that quinine is readily absorbed when injected into muscle. Further, clinical evidence of the absorption of quinine when administered intramuscularly is afforded by those cases of malaria in which quinine given by the mouth produces no effect on the temperature, which, however, is very quickly reduced to the normal line when the intramuscular method of treatment is substituted for the oral. Major A. C. MacGilchrist, I.M.S., showed that quinine given by the mouth is more rapidly absorbed than when given intramuscularly, but that the curve of absorption is more sustained in the latter case; in other words, in oral administration the maximum absorption occurred in about four hours, whilst intramuscularly the absorption curve was at its maximum from the eighth to the sixteenth hour. Thus it appears that normally quinine is more readily absorbed from the stomach. A possible explanation of the clinical observation that injections of quinine do good when oral administration fails is that in malaria the co-existing catarrhal condition of the gastro-intestinal tract may considerably inhibit the absorption of quinine. Sir Ronald Ross notes that "these injections still appear to be largely used." I agree that they are still very popular, but I think it unlikely that the practitioner in the tropics would give the care and the time necessary to their preparation unless he firmly believed that some material advantage was to be gained for his patient and unless his results from this mode of treatment were clinically more satisfactory than those obtained by the much simpler action of writing a prescription.

Your correspondent also writes: "Sir David Semple has shown the danger of tetanus attending injections, and it is to be noted that the case mentioned had some convulsions." From this I infer that Sir Ronald Ross means the convulsions which occurred in the case reported by me in THE LANCET of March 28th were in some manner related to the treatment which I adopted. If the convulsions

were due to the quinine itself, then their occurrence is proof conclusive that the drug was absorbed; if, on the other hand, they were a manifestation of tetanus—as it seems to me is inferred—then, in my opinion, this patient would never have recovered. Clinically, the case referred to presented no similarity to tetanus as it occurs in man, and I consider that the convulsions had nothing to do with either the absorption of quinine or with tetanus, or any other infection incidental on the treatment. I would attribute these convulsions to the same cause which produced the coma—viz., toxins which had been liberated from the malarial parasites, and which, circulating in the brain, irritated the various centres.

Sir David Semple certainly showed in his experiments on guinea-pigs that the injection of quinine did produce conditions favourable for infection with "washed tetanus spores" injected into other sites. These experiments, however, have never convinced me that quinine injections as used in practice are dangerous, or that their administration requires the simultaneous injection of tetanus antitoxin, a condition which would place quinine injections beyond the reach of most practitioners. His experiments on guinea-pigs, which most closely resembled the lines of treatment by injection in man, were those in which ¼ grain of quinine was injected hypodermically into each of eight guinea-pigs. In only one of these was the tetanus bacillus subsequently isolated from the site of injection, the presumption being that the infection was autogenous. Now a dose of ¼ grain of quinine given to a guinea-pig of 500 grammes weight would correspond to injecting considerably over 100 grains to a man of 11 st. The conclusions were that quinine injections favoured the development of tetanus in two ways: (1) by paralysing the phagocytes; and (2) by a destructive action on the tissues at the site of injection. This being so, it seems to me that the larger the dose of quinine the more favourable would the conditions be for the development of tetanus. It would be interesting to know what percentage of guinea-pigs, if any, would develop tetanus after injecting 1/15 grain of quinine, which is the proportionate dose for a guinea-pig of 500 grammes weight, assuming that 10 grains is a suitable dose for a man of 11 st. I still think that Sir Patrick Manson was right when he said that "it was not the quinine that caused the tetanus; it was the tetanus bacillus, and this tetanus bacillus was introduced either on a dirty needle or in a fouled solution."

Finally, Sir Ronald Ross writes that "cases of malaria, even often in pernicious attacks, generally recover temporarily without any treatment at all." This may be so, but I have not seen any such cases; in the case recorded by me I feel sure that recovery would not have ensued without treatment, and I must therefore continue to express my faith in intramuscular injections.

I am, Sir, yours faithfully,

A. G. TRESIDDER, M.D. Lond.,
Captain, Indian Medical Service.

Jhelum, May 13th, 1914.

DIATHERMY IN VESICAL HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—I am much interested in the letters under the above heading from Dr. C. E. Iredell and Mr. Ralph Thompson and from Mr. Frank Kidd. Both letters criticise my lecture on Tumours of the Urinary Bladder, which was recently published in THE LANCET, in that I made no mention of diathermy in the treatment of vesical tumours. My error, if such it be, is one of commission rather than omission, as I was fully aware of the work of Bell and other surgeons in this mode of treatment, but my personal experience of it was too limited to make any definite statement upon it. As, however, the omission has caused surprise to some of your readers, I trust I may be allowed space for a brief reply.

The letters published in THE LANCET of May 16th and 23rd last bring out two entirely different uses of diathermy. Dr. Iredell and Mr. Thompson write of the success in their hands of diathermy in the arrest of severe hæmorrhage for some months in four cases of advanced vesical carcinoma. In cases under my own care I have found so much relief given by the formation of a permanent suprapubic fistula, and the arrest of hæmorrhage under direct vision with the bladder opened has presented so little difficulty, that I have not tried the effect of diathermy. However, should a suitable case come forward in which hæmorrhage is the prominent symptom—apart from pain and the distressing increased frequency of micturition which so frequently accompany it—I shall certainly try it.

Mr. Kidd, on the other hand, would use diathermy in the radical treatment of a villous papilloma to the exclusion of operative removal and "does not believe that the bladder need ever be opened in the future for simple growths." Now one point I tried to emphasise in my lecture was the absolute necessity to remove not only the papilloma but the surrounding mucous membrane of the bladder at its attachment, to insure freedom from recurrence, and time alone will show if diathermy is as effectual in destroying the tumour cells at the base of the growth as their removal by open operation. Further, I attempted to show not only the close relationship between a papilloma and a villous carcinoma of the bladder, but the difficulty that may arise in the diagnosis between them in a cystoscopic examination. If we are to rely upon diathermy in the treatment of these cases I am sure that an early malignant vesical growth will occasionally be overlooked and valuable time in which a carcinoma may be eradicated with some hope of freedom from recurrence will be lost. For these reasons I look upon diathermy in the treatment of vesical tumour as still in an experimental stage, and accordingly cannot include it as a "standard method" of treatment.

I am, Sir, yours faithfully,

R. H. JOCELYN SWAN.

Wimpole-street, W., June 1st, 1914.

INTRATHECAL TREATMENT WITH SALVARSANISED SERUM.

To the Editor of THE LANCET.

SIR,—That good can be effected in parenchymatous syphilis, notably in tabes dorsalis, by intrathecal injections is to my mind certain, but it must be conceded that this method of treatment has not yet passed the stage of probation. Admitting the principle, we have still much to learn as to matters of detail, and we can only arrive at a perfected technique (as to the medicaments to be employed, their dosage, the number of injections, &c.) by experience. It therefore behoves all physicians adopting the intrathecal method to make a careful record of the results obtained, not only as regards the general clinical features of the disease, but, what is even more important, the changes effected in the cerebro-spinal fluid.

The improvement which this treatment produces—e.g., in tabes—shows itself, as Dr. Gordon Spencer points out,[1] by a disappearance of the lightning pains and by a diminution in the incoördination; but, inasmuch as sceptics might be inclined to attribute such improvement to suggestion, it is desirable that careful records should be made of the effect of the treatment as regards such clinical features as the light reflex, the knee-jerks, and the weight of the patient. Observations on the light reflex demand particular care, and should always be checked by a second observer. The most accurate method of gauging the improvement brought about by the intrathecal treatment, however, is by observing the changes in the cerebro-spinal fluid. At every intrathecal injection a specimen of this fluid should be secured for testing purposes, and a record made of the Wassermann reaction, the lymphocyte count, the globulin reaction, and the percentage of albumin.

By comparing the results obtained by different methods in a large number of patients we shall be able to discover the most efficient one.

I am, Sir, yours faithfully,

Wimpole-street, W., June 2nd, 1914. HARRY CAMPBELL.

HELMINTHEMESIS.

To the Editor of THE LANCET.

SIR,—There is an interesting note on "helminthemesis" in THE LANCET of April 25th. It begins with the statement that "vomiting or expulsion by the mouth of intestinal parasites is a rare occurrence," and I would ask you to allow me to qualify this by adding the words "except in Persia." Here intestinal worms are exceedingly common, and I think I am safe in saying that every Persian is infected at one time or another in the course of his life, and that a large proportion of Europeans fails to escape. The common worms in the North of Persia are ascaris lumbricoides, oxyuris vermicularis, and taenia saginata, and they occur in this order of frequency.

So far is the vomiting of a round worm removed from being a rare occurrence that I now hear of the event with composure, though not a little astonished at its frequency when I first came to Tehran. I regret that I have not kept a record of the cases which I have met, but I can only say that they have been numerous. The expulsion of the worm is very often accompanied by serious general disturbance. I well remember the first case of grave illness to which I was called after arriving in Tehran eight years ago. It was that of a child aged 4 who was unconscious, with high fever, a rapid irregular pulse, and Cheyne-Stokes breathing. Meningitis was my diagnosis, but within 24 hours the child vomited a round worm and promptly got well. I have seen other cases of obscure and apparently grave illness, both in adults and children, terminated by the vomiting of a worm; I should say round worm, for I have never seen a tapeworm expelled from the mouth. To omit to give santonin in most cases of gastro-intestinal disturbance, and to many patients whose symptoms cannot be correlated with any definite diagnosis, might here in Tehran, to my mind, almost be dubbed mal-praxis!

Before closing I would like to describe a case of helminthiasis the like of which I have not read nor seen again. A child aged 7, wasted to skin and bone, face drawn with pain, fever, irregular bowels, and occasional vomiting. Abdomen full of lumps, some as big as hen's eggs, and tender. Diagnosis: tuberculous peritonitis. Prognosis: hopeless. Treatment: calomel and santonin in small doses, as a beginning. In three days the child was brought back looking a different creature and the lumps in the abdomen gone. Unfortunately I had been too sure of my diagnosis to order the results of my prescription, if any, to be brought for inspection. But the expressive gestures of the mother were sufficient to show that scores of round worms must have been expelled.

I am, Sir, yours faithfully,

H.B.M's Legation, Tehran, May 11th, 1914. A. R. NELIGAN.

[1] THE LANCET, May 30th, 1914.

RE-EDUCATION OF THE DEAF.

To the Editor of THE LANCET.

SIR,—In THE LANCET of May 23rd, p. 1449, Mr. Richard Lake has published an article on my method of treatment of deafness. In order to explain the lack of success which he has experienced, in contradiction to the results obtained in France during 15 years, results which are officially recognised by the Academy of Medicine, one of the three following hypotheses must be admitted: (1) Either he has modified the apparatus, however little, which has transformed the vibrations; or (2) he has turned his attention to patients who are not amenable to the siren (and this is evident at the end of a week's treatment); or (3) he has not followed the rules of clinical treatment.

I enclose my communication to the Academy of Medicine and the report of that body. In the interest of patients and medical men it would appear to me desirable that you should publish my letter and the report of the Academy in your journal.

There is no question here at all of a commercial matter, as in the case of other methods which Mr. Lake seems to confound with mine, since anybody who likes may construct my apparatus.

I am, Sir, yours faithfully,

M. MARAGE,

Docteur en Médecine et Docteur ès Sciences Chargé de Cours à la Sorbonne.

19, Rue Cambon, Paris, June 2nd, 1914.

*** We have translated Dr. Marage's letter. The communication to the Academy of Medicine (which we have not space to reprint) is entitled "Règles Acoustiques et Cliniques de la Ré-éducation Auditive," and is published by the author at his address.—ED. L.

A PRINCIPLE OF DIETETICS.

To the Editor of THE LANCET.

SIR,—It appears that the time has arrived when a subject interesting alike to physicians and the public generally should be discussed in the medical journals. It seems to me undesirable that medical men in authoritative positions should speak dogmatically to lay audiences upon subjects which they may not have studied closely and upon which there appear to be widely divergent views. I am prompted to suggest this discussion in THE LANCET by having had my attention drawn to some remarks by Dr. Robert Hutchison, reported in the *Times*, at a conference of teachers on domestic subjects. Answering questions, Dr. Hutchison said: "A good deal of nonsense was being talked about the effects of bad teeth. The most absurd instructions were issued, and in one leaflet he had seen it was stated that every meal was to end with raw fruit to clean

the teeth out, and that the children were to have a raw apple each night before they went to bed, but nothing was said about a toothbrush."

It is not my intention to attempt to defend all that may be said as to how dental diseases may be prevented, and although no doubt the eating of an apple before going to bed might do the teeth no harm, for other reasons I certainly would not defend the procedure. At the same time, I am in most hearty agreement with the statement that every meal should end with raw fruit or food of a detergent nature so that the mouth will be physiologically clean at the end of the meal. To say that the advocacy of ending a meal with raw fruit in order to clean the teeth was a most absurd instruction seems to overlook a principle of dietetics of first-rate importance now recognised by many medical men in highly responsible positions—namely, that a meal should terminate in such a way that the mouth and teeth will be left physiologically clean. Indeed, on June 1st, 1912, in an article on Dietary Reform in Secondary Schools, THE LANCET said that "everyone will agree with the recommendation of raw fruit as a termination for a meal." To scout this principle leads not only to the destruction of the teeth from caries but also to "oral sepsis" and all its attendant consequences. To indicate that this principle can be flouted and that the evils resulting from ending a meal with non-detergent or unhygienic foods can be rectified by the use of a toothbrush is reverting to a system of preventing dental diseases which has been found in the past to be most unreliable and relatively inefficacious.—I am, Sir, yours faithfully,

Harley-street, W., June 2nd, 1914. J. SIM WALLACE.

"THE MENACE OF CANCER."

To the Editor of THE LANCET.

SIR,—The question, Is cancer on the increase? is no doubt extremely difficult to answer in the affirmative if accurate and reliable statistics on the subject be demanded as a necessary basis for the reply. Where such reliable statistics do not exist—which is, I imagine, the condition in most countries at the present time—it may be necessary for a community to make up its mind on the subject without them, aided by such figures as may be available and the general knowledge of the community. On account of the serious nature of the disease it would seem important for all communities to satisfy themselves on the point and to realise, as one of your correspondents puts it, "the seriousness of the cancer problem, ... the frequency of cancer occurrence," and the necessity "of arousing a public interest in the necessity of educating the public in the plain facts of cancer as a pre-requisite for a nation-wide campaign for cancer control"; and should an increase of the disease be evident, as Mr. Hoffman compels one to believe is the case in America,[1] it is of equal or greater importance to know the reason why. To judge from recent literature on the subject, Britain does not seem to be in any better case—e.g., the medical officer of health of Edinburgh in his annual report last year called pointed attention to the increase of this disease, the mortality from which has been for years almost the same as that from phthisis. An interesting letter appeared in the *British Medical Journal* of Feb. 14th last, p. 368, from "F. H.," with diagram, relating the occurrence of 17 cases of cancer along a four-mile stretch of road within the period of five years. Nor is this increase of cancer confined to Britain and America. South Africa is in an equally unfortunate condition. Speaking from personal experience during the last 29 years (for statistics we have none) at the beginning of that period cancer was decidedly a rare disease; it has increased in the white population gradually and continuously during these years, and to-day it is comparatively a common disease, so much so indeed that it is attracting public attention.

When a common condition is so widely spread there is probably a common cause. In the Physiological Section, British Association, 1913, Dr. F. C. Shrubsall, speaking on the relative fertility and morbidity of defective stocks, having studied 700 families, is credited with stating that consumption was extremely common among degenerate stocks, that insanity was infinitely more frequent in defective stocks, and that cancer was more frequent and infantile mortality ten times greater in defective than in normal stocks, a degenerate condition unquestionably showing a greater susceptibility to disease. It is, I think, generally accepted to-day that syphilis is the great agent by which degeneration of stocks is accomplished. Thirty odd years ago some of the older surgeons believed in a close relationship between syphilis and cancer: as I have heard it expressed by one of them, "people acquire syphilis late in life and die of cancer." This belief seems to have been "on the shelf" for a good many years, but is again finding expression in a cautious manner—e.g., Mr. D'Arcy Power, in his evidence before the Royal Commission on Venereal Diseases, at its twenty-second meeting, is reported as stating that "the expectation of life was materially shortened for a person who had been infected with syphilis; the immediate danger extended to the second generation, and the vitality of the stock seemed diminished for several generations. ..... It predisposed," Mr. Power thought, "to cancer and tubercle."[2]

In South Africa there seems little doubt that cancer favours syphilitics, and that the two diseases have increased side by side. The same is true of tuberculosis, the preference of which for syphilitics has been specially pointed out in papers by me in THE LANCET of May 11th, 1912 ("Report on an Enquiry into the Prevalence of Syphilis in the South African Native and its Influence in Aiding the Spread of Tuberculosis"), and of April 11th, 1914 ("The Mortality on the Rand: Some of its Causes"). South Africa has its full quota of physical and mental degenerates, the responsibility for the mass of which must be attributed to venereal diseases. In addition to these we have another disease which also seems to be dependent for its spread on the presence of a syphilitic foundation—viz., leprosy. Nor is this surprising in view of the close affinity of the organisms of leprosy and tuberculosis. So close that one asks, Are they distinct organisms or variations of the same organism? Possibly the development of Mme. Victor Henri's work may throw some light on this important matter in the near future. In 25 years the number of lepers in Basutoland has increased from 300 to 800. In Natal, along the Basutoland frontier, the increase of cases has been so great that the attention of the

[1] THE LANCET, April 11th, 1914, p. 1079.

[2] THE LANCET, March 21st, 1914, p. 846.

Government was called to it in the Union Parliament during the present session. In Europe the increase is also marked. In Paris, it is stated, the number of lepers has increased in a few years from 50 to 300. This is also true of Russia. India shows a like tendency, the increase being placed at 10 per cent. for ten years.

In consideration of these facts it would seem that, while not neglecting these various diseases, there may be a better way of directing a nation-wide campaign than against cancer, as suggested by Mr. Hoffman—viz., towards the elimination of venereal diseases. With its success one might venture to hope for the disappearance of most of the others to a very marked extent. The only army with which any hope lies of carrying such a campaign to a successful issue requires to be composed of the *children of the nation* who have received a common-sense education in those subjects which concern so nearly their own and the nation's welfare. "The foundation of every nation is the education of its youth."

I am, Sir, yours faithfully,

BENJAMIN G. BROCK.

Germiston, South Africa, April 30th, 1914.

THE CHEMICAL TREATMENT OF CANCER.

To the Editor of THE LANCET.

SIR,—The treatment of inoperable cancer by chemical agents is, in fact, that of the disease itself. If growths of long standing can be safely removed by their use greater success will be obtained when more recent growths are attacked. The basis of such treatment rests upon the fact that the bodily resistance to disease can be increased artificially by the exhibition of such chemical substances as the cinnamate of sodium and the orthocoumarate of sodium, and that an element destructive to the life of cancer cells can be introduced without involving the destruction of healthy cells. The introduction of colloidal copper has placed in my hands the coping-stone for which I have been seeking since 1908.[1] In 1912 D. T. Gaube du Gers published a paper in Paris, "De la Décancérisation," in which he published some cases treated with a colloidal copper solution, and I recognised the fact that the coping-stone for which I had been assiduously looking had been found. The successive steps taken have been published in THE LANCET,[2] and I claim that they have been taken in an orderly manner, and based upon a sufficient working hypothesis. Dr. Morgan, since 1908, has made various metallic organic compounds such as the coumarate of copper, but none of them have been found to be of practical therapeutic use owing to insolubility or other reasons. Dr. Martindale, of New Cavendish-street, has now made a solution which he is sending out in sterile form and which contains copper in the form of a protalbuminate or lysalbuminate, and he confidently asserts that the copper content is in a colloidal state and chemically very labile and reactive. From the therapeutic aspect there is no doubt that the solution is active, that it is well tolerated, and gives rise to no unpleasant reactions in patients.

I have administered 5 c.c. of this solution subcutaneously twice weekly to a patient suffering from advanced carcinoma of the liver, and Mr. C. B. Lockwood, who has seen the patient, thinks that there is extensive intestinal involvement in addition. On April 1st this woman, aged 64, was very deeply jaundiced, there was no bile in the motions, and the urine was the colour of mahogany. Vomiting and diarrhœa were incessant. After a fortnight's treatment there was definite improvement in the general condition of the patient, the large masses of growth had much diminished, and the vomiting had disappeared. After eight weeks' treatment the improvement was very marked, vomiting and diarrhœa were absent, the urine was less discoloured, and there was less pigmentation of the skin.

It appears, therefore, that the treatment of cancer can be successfully undertaken with the aid of chemical substances, and it is for this I have contended for many years past. During the last four or five years certainty existed in my mind that my chemical friends, Dr. Morgan and Dr. Martindale, would sooner or later provide me with the copper compound for which I was seeking, and when the latter sent me the colloidal copper solution I recognised the fact that success was secured. So much success had already been obtained with the aid of coumaric acid compounds aided by oleate of copper in the cases where the latter could be applied locally, that the only doubt remaining was as to the toleration of copper in the colloidal form by the patient in doses which would be sufficient for the attack upon large masses. This doubt has now been removed, and it can be asserted that there is no danger to the patient when colloidal copper is exhibited in the dose contained in 5 c.c. of Dr. Martindale's solution.

In conclusion, may I express the hope that no more will be spent upon the exploitation of radium as a cure for this disease? Its use has not been unaccompanied with grave disasters, and, if the truth is told, its therapeutic possibilities are limited to the treatment of easily accessible growths, and always will be. Growths situated even a comparatively short distance from the spot exposed to the rays must be uninfluenced by their action.—I am, Sir, yours faithfully,

June 1st, 1914. LOVELL DRAGE, M.D. Oxon.

[1] THE LANCET, Nov. 7th, 1908.
[2] THE LANCET, July 12th, 1902, and Sept. 7th, 1907.

TOUCHING FOR THE KING'S EVIL.

To the Editor of THE LANCET.

SIR,—In the last part of the Proceedings of the Section of the History of Medicine, Royal Society of Medicine (p. 234), Dr. Raymond Crawfurd added a note referring to the supposed bronze touch-piece of Charles I., for the first public announcement of which he thought we were indebted to Mr. Henry Symonds. I have looked up Dr. Crawfurd's reference to Mr. Symonds's announcement (*Numismatic Chronicle*, London, fourth series, 1910, vol. x., p. 395), and find that amongst "the accounts of the wardens of the exchange and moneys within the Tower" (1625–1649) Mr. Symonds specially noted an entry (1635–1636) recording the allowance of a payment to the chief graver "for making tokens used for the healing of the king's evil and delivered to William Clowes, sergeant chirurgeon, at 2*d.* the piece; the number being 5500." Mr. Symonds proceeds: "This is an interesting discovery, proving, as it does, that Charles used a touch-piece of base metal when the gold angels had become too valuable to be distributed at such ceremonies." I do

not think it proves anything of the kind. It is far more likely to my mind that the pieces in question were given as mementos to visitors allowed to watch the ceremony, or were used in some way as "passes" or "tickets" in connexion with the ceremony. There can, however, be no doubt that Mr. Symonds and Mr. Grueber are right in their suggestion that the bronze piece referred to is the one engraved in W. Boyne's "Seventeenth Century Tokens" (first edition, London, 1858, Pl. 36, No. 11), having on the obverse the design of a hand from the clouds over the heads of four men, and on the reverse a rose and thistle under a crown; the legend, partly on the obverse and partly on the reverse, is: HE TOVCHED THEM AND THEY WEARE HEALED. It may be here observed that Dr. T. J. Pettigrew already in 1844 had suggested that the piece in question was a touch-piece. He had it engraved amongst "royal touch-pieces" on the frontispiece to his book "On Superstitions Connected with Medicine and Surgery" (published by J. Churchill, London, 1844). By the style of the piece it must almost certainly belong to the reign of James I. or Charles I., but for the following reasons I think it cannot have been a real "touch-piece": 1. It is hardly ever met with pierced with a hole for suspension, like regular touch-pieces invariably are. 2. It is met with either struck from dies or as a *cast of the period*, like many other medalets of the Stuart sovereigns. 3. It seems very improbable that in 1635–1636 King Charles I. should have taken such a liberty with an ancient and cherished religious ceremony, as would have been the case had he used bronze instead of gold pieces in touching for the king's evil. Even the Stuart "pretenders," James III., Charles III., and Henry IX., during their most adverse times, never used touch-pieces of a metal inferior to silver when they "touched" (as they frequently did) for the king's evil. 4. Had bronze touch-pieces really been used by Charles I. instead of the proper gold pieces, it is almost certain that definite references to the fact would have come down to us in the literature and ordinary records of the time.

On all these grounds, therefore, I maintain that until further information is forthcoming the bronze pieces in question must be regarded as medalets or tickets of some kind connected with the ceremony of touching for the king's evil, but not as actual touch-pieces.

I am, Sir, yours faithfully,

F. PARKES WEBER, M.D. Cantab.

Harley-street, W., May 27th, 1914.

SOCIETY OF TUBERCULOSIS OFFICERS.

To the Editor of THE LANCET.

SIR,—Regarding the suggestion thrown out by Dr. Crowe in a letter in THE LANCET of March 21st that a society of tuberculosis officers should be formed, I am not aware that this has yet been taken up, but possibly the reason is that such officers are engrossed with the details of the organisation and development of their work. For various reasons it appears advisable for such a society to be formed, and it has occurred to me that an opportunity might offer itself during the forthcoming annual conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis in Leeds. A preliminary meeting might be called for the evening of Wednesday, July 8th, and if a sufficient response be made to this suggestion a suitable meeting-place could be selected. I shall be glad to learn the views of other tuberculosis officers.

I am, Sir, yours faithfully,

THOMPSON CAMPBELL, M.D. Glasg.

The Limes, Wakefield, June 1st, 1914.

THE STETHOSCOPE IN ENGLAND.

To the Editor of THE LANCET.

SIR,—In the interesting account of the dinner to celebrate the centenary of the Royal Hospital for Diseases of the Chest, City-road, published in your issue of May 16th, it is stated that Dr. Thomas Davies introduced the stethoscope into England in 1862. May I ask you to correct the date, which is misleading? It should be *1825* not 1862. Dr. Thomas Davies died in June 1839.

I am, Sir, yours faithfully,

ARTHUR T. DAVIES,

Senior Physician to the Royal Hospital for Diseases of the Chest, City-road, London.

Tokenhouse-yard, E.C., June 3rd, 1914.

THE NATIONAL INSURANCE ACT.

COMPLAINTS AGAINST LONDON PRACTITIONERS.

IN the monthly report on complaints against practitioners presented on May 28th to the London Insurance Committee was included a case in which the Medical Service Subcommittee found that a doctor wrongfully made a charge for services rendered, and that he refused to issue a death certificate until payment of 3 guineas was forthcoming. The latter allegation was denied by the doctor. Extenuating circumstances in the case appeared to be that the patient had been attended by another practitioner as a private patient, and on moving into another district came under the care of the doctor against whom complaint was made. The patient was in a very grave condition, and a conflict of evidence arose as to whether he was accepted as a private or an insured patient. On the documentary evidence available the subcommittee decided against the doctor on this point. Mr. O. E. Warburg, chairman of the subcommittee, mentioned that in this case the new form of procedure had been recommended of sending the papers to the Insurance Commissioners with a request that they would bring them to the notice of the General Medical Council. The dereliction of which the practitioner was found to have been guilty was not one concerning the efficiency of the medical service, the treatment having been quite satisfactory. A grave breach of professional practice was alleged, and the matter should come before the professional tribunal, which could deal with it adequately. The committee approved this course. In another case, in which a doctor was censured for a breach explainable by illness and had since died, Mr. Evan Jones moved the reference back with a view to the case being expunged from the records, but by a majority the committee rejected the motion.

DISTRIBUTION OF THE UNALLOTTED FUNDS.

The question of the distribution of the moneys accumulated in the Medical Benefit Fund in respect of insured persons who have not chosen a doctor was again before the London Insurance Committee on May 28th, when the special subcommittee,

which was instructed a month ago[1] to prepare a scheme for distribution, recommended a method whereby an allotment would be made on paper to all practitioners on the panel of the whole amount in the Medical Benefit Fund for 1913—viz., £490,000 (including £28,436 for domiciliary treatment and the £91,000 unallotted money). Sums would be credited to each practitioner in accordance with the number on his list, the amount already received in the form of quarterly cheques during 1913 would be deducted, and a remittance would be sent for the balance. It was stated in the course of debate that the Insurance Commission had advised this as the proper and indeed the only possible course, but as it appeared that this information was not received in an official way, but only by word of mouth, and as various documents issued by the Commission seemed to contemplate alternative methods of distribution, the committee decided to refer the matter back to the subcommittee once more.

LONDON PRACTITIONERS AND THE BUDGET PROPOSALS.

The London Panel Committee has opened its meetings to representatives of the medical press, and at the first meeting held under these conditions resolutions were passed with the object of stating the professional view as to the best ways in which the money provided by the Budget to aid the establishment of laboratories, and for the provision of skilled nursing, &c., could be expended. The resolutions declared that the services of medical referees should be available to practitioners on the panel without fee, that the referees should not combine with these duties the ordinary duties of a consultant or be engaged in general practice in the same area. The conditions under which the services of nurses should be available to practitioners were defined, and it was declared that laboratories for chemical, pathological, and bacteriological examinations should be available to practitioners on the panel without fee, that arrangements should be made for closer coöperation between practitioners and institutions for specialised treatment, and that more hospital accommodation was needed in London for women. A deputation was appointed to place these views before the Chancellor of the Exchequer.

[1] THE LANCET, May 2nd, p. 1289.

HOSPITAL SUNDAY IN LONDON.—June 14th is Hospital Sunday in the metropolis, and it is announced that the Lord Mayor and Sheriffs of London will attend in state the morning service at Westminster Abbey and the afternoon service at St. Paul's Cathedral.

CHELSEA HOSPITAL FOR WOMEN.—Viscount Castlereagh, President of the Hospital, will take the chair on the occasion of the laying of the foundation-stones of the new hospital and nurses' home by the Earl and Countess Cadogan on Tuesday, June 9th, at 3·30 P.M. The Rector of Chelsea, Archdeacon Bevan, will conduct the dedication service.

DONATIONS AND BEQUESTS.—By the will of the late Mrs. Ann Smith, of Nottingham, the Nottingham Children's Hospital will receive £1000.—Under the will of the late Mr. Samuel Heilbut the London Hospital, St. Mary's Hospital, the Great Ormond-street Hospital for Children, and the Jews Hospital and Orphan School, Norwood, will receive £1000 each.—An anonymous donor has given £1500 to the Royal London Ophthalmic Hospital for the endowment of a bed and a cot.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred:—

M.D.—F. C. Trapnell, King's; F. O. Arnold, Trinity.

UNIVERSITY OF LONDON.—At examinations held recently the following candidates were successful:—

THIRD (M.B., B.S.) EXAMINATION.

Honours.—*Henry Julyan Hoyte, Westminster Hospital; †Fede Margherita Mackenzie, London (Royal Free Hospital) School of Medicine for Women; and *John Beaufoy Randall, B.Sc., St. Bartholomew's Hospital.

* Distinguished in Medicine. † Distinguished in Midwifery and Diseases of Women.

Pass.—Francis Cooke Alton, St. Thomas's Hospital; Thomas Izod Bennett, Guy's Hospital; Geoffrey Andrew Bird, B.Sc., St. Thomas's Hospital; John Bostock and Michael Joseph Cronin, London Hospital; Hector Wynne Davies, University College Hospital; Robert Ellis, University of Birmingham and St. Bartholomew's Hospital; Henry William Evans, Guy's Hospital; Edward Alex. Marie Joachim Goldie, University College Hospital; Frank Arthur Grange, London Hospital; Peregrine Stephen B. Langton and Oliver Cuff Link, Middlesex Hospital; Robert John McNeill Love, London Hospital; Wilfrid Egerton Milligan, St. Thomas's Hospital; Cresswell Lee Pattison, St. Mary's Hospital; Richard Amyas Preston, London Hospital; Maitland Radford, University College Hospital; Cecil George Richardson, Westminster Hospital; Arthur Montgomery Marsh Roberts, University of Liverpool; Helen Lawson Robertson, London (Royal Free Hospital) School of Medicine for Women; William Henry Price Saunders, Middlesex Hospital; Clive Justin Hicks Sharp, University College Hospital; George William Shore, King's College Hospital; William Simpson, St. Bartholomew's Hospital; John Smith Sloper, St. Thomas's Hospital; Sidney Smith, King's College Hospital; Henry James Drew Smythe, University of Bristol; William Edward Tanner, Guy's Hospital; Victor David Collins Wakeford, St. Bartholomew's Hospital; Aubrey Harrison White, University of Bristol; Alfred Wills, B.Sc., Oscar Reginald Lewis Wilson, and Charles Witts, Guy's Hospital; and Bernard Woodhouse, University College Hospital.

The following candidates have passed in one of the two groups of subjects:—

Group I.—Basil William Armstrong, St. Mary's Hospital; William Claude Percy Barratt, University College Hospital; Robert Maitland Beath, Queen's University, Belfast; Alexander Decimus d'Avray, University College Hospital; Una Griffin, Mary Esther Harding, and Mildred Archer Jukes, London (Royal Free Hospital) School of Medicine for Women; John George Owen, B.Sc., King's College Hospital; Cyril Sherris, Guy's Hospital; Godfrey Alan Walker, London Hospital; and Thomas Burges Welch, St. Bartholomew's Hospital.

Group II.—William Roy Blore, Victoria University of Manchester; William Burt, St. Thomas's Hospital; Noel St. John Grey Dudley Buxton, University College Hospital; John Alfred Wylde Ebden, Westminster Hospital; George Dunluce Eccles, Guy's Hospital; Thomas Percy Lewis, St. Mary's Hospital; Thomas Bond Paul, Middlesex Hospital; Edna Mary Powell, London (Royal Free Hospital) School of Medicine for Women; Arthur Leslie Hanworth Rackham, Middlesex Hospital; Philip Smith, Guy's Hospital; Trevor Richard Snelling, London Hospital; Grace Stapleton, London (Royal Free Hospital) School of Medicine for Women; Joseph Alexander Tsoi-A-Sue, London Hospital; Ernest Haines Walker, St. Thomas's Hospital; and Arthur Graham Winter, London Hospital.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

GLASGOW UNIVERSITY CLUB, LONDON.—Emeritus Professor John Cleland presided at the half-yearly dinner of the Glasgow University Club, London, held in the Trocadéro Restaurant on May 27th. A large proportion of the members are medical graduates. Amongst those present were Director-General Sir Arthur Sloggett, A.M.S., Sir Henry Craik, M.P., Lieutenant-Colonel Sir W. B. Leishman, R.A.M.C., Sir John McCall, Sir Thomas Oliver, Mr. Charles Stonham, Professor W. R. Smith, Principal J. Yule Mackay, Mr. Charles Ryall, Dr. Guthrie Rankin, Dr. Dan McKenzie, Lieutenant-Colonel Legge, Inspector-General of the Australian Forces; Dr. Norris, Commonwealth medical officer in London; and Dr. Alexander Macphail and Dr. D. S. Roxburgh, the honorary secretaries. The Chairman, in proposing "The University of Glasgow," said that his association with it had been long. He had performed the duties of professor of anatomy for 32 years, and at a previous period to that he had been for two years a demonstrator. The latter post he had held under Professor Allan Thomson, a most genial man, who raised the teaching of anatomy in the University to a height which had not been reached in it before. Besides that, he was the first man in this country to teach that very important part of his subject which went by the name of embryology. He was sorry that very few professors who were teaching at the time when he took up the duties of his chair, now remained.

There was only one who still continued at work in his chair, Professor Ferguson, but he was glad that a few others still lived. It was the medical school with which he had most to do, and it had produced many distinguished men in the medical profession. One of those distinguished men was present with them in the person of Sir W. B. Leishman. Sir Henry Craik (the representative of the University in Parliament), in proposing the health of Mr. W. Craig Henderson, who had retired from the office of honorary secretary, congratulated him on the success of his efforts in his professional character as a barrister in saving the University from the attempt to run the Glasgow tramways through its vicinity. Mr. Craig Henderson replied. The Rev. Dr. John Smith responded to the toast of "The Guests," which was proposed by Professor John Adams. Principal Mackay, in submitting the health of the chairman, spoke as an old student of the high ideals which Professor Cleland had set in his teaching. He was the kind of teacher who was looked up to with feelings of admiration, respect, and love by all who had had the privilege of being his students. The toast was drunk with Highland honours.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 35 cases were considered and grants amounting to £310 voted to 30 of the applicants. The following is a summary of the cases relieved:—

Widow, aged 52, of L.R.C.P. & S. Edin. who practised at Walsall and Bethnal Green. Ill-health and unable to do much work, only earning about 5s. per week by nursing. One son, unable to help. Granted £12 in 12 instalments.—Wife, aged 48, of M.R.C.S. Eng. Deserted by her husband. One daughter who with her mother earn a few shillings each week by teaching children. The mother's health very bad. Granted £12 in 12 instalments.—Daughter, aged 57, of M.R.C.S. Eng. who practised in London. Until a few years ago was able to earn her living as housekeeper, but owing to the death of employer and ill-health following through overwork is unable to obtain employment. Granted £12 in 12 instalments.—L.R.C.P. & S. Edin., aged 58, who practised at Leith, suffering from locomotor ataxy and quite unable to work. His wife only a small annuity. Voted £18 in 12 instalments.—Widow, aged 68, of F.R.C.S. Eng. who practised at Putney. Has tried to live by letting off portion of house she rents. Is now suffering from arthritis deformans and quite helpless. Recommended for an annuity. Voted £12 in 12 instalments.—Widow, aged 64, of M.D. Aberd. who practised at Fulham until early this year. Only income £16 per annum. Four children, unable to assist. Voted £12 in 12 instalments.—Widow, aged 49, of L.R.C.P. & S. Edin. who practised in Jamaica. Only certain income 30s. per month from another society and friends. Three children unable to assist. Relieved six times, £72. Voted £12 in 12 instalments.—Daughter, aged 62, of L.F.P.S. Glasg. who practised at Widnes. Income £40 per annum from two charities. Suffering from laryngitis. Relieved four times, £20. Voted £5.—Daughter, aged 59, of F.R.C.P. Edin. who practised at Cheadle. Failing health and unable to obtain suitable employment. Allowed £25 per annum by a friend, and earns about £6 10s. a year by own efforts. Relieved nine times, £74. Voted £12 in 12 instalments.—Widow, aged 73, of M.R.C.S. Eng. who practised in the Old Kent-road, S.E. Suffering from rheumatoid arthritis. Only income an old age pension. Relieved four times, £40. Voted £12 in 12 instalments.—Widow, aged 43, of L.R.C.P. & S. Edin. who practised in South Wales. Has endeavoured to earn a living for herself and two daughters by nursing, but work has been very uncertain of late. Referred to the Guild. Relieved eight times, £60. Granted £5.—Widow, aged 68, of M.R.C.S. Eng. who practised at Heathfield. Two children, both married, but unable to help. Applicant helpless with rheumatism. Only income £20 per annum. Relieved six times, £63. Granted £12 in 12 instalments.—Widow, aged 51, of L.R.C.P. & S. Edin. who practised at New Quay. Has recently fractured her leg and otherwise been very ill. Two sons who are sailors only able to help slightly. Relieved 12 times, £113. Granted £12 in 12 instalments.—Daughter, aged 75, of M.R.C.S. Eng. who practised at Hackney-road, N.E. Lost all her private income by the failure of her trustee. Only income £52 per annum from friends and relations. Relieved twice, £24. Voted £12 in 12 instalments.—Widow, aged 62, of M.D. Aberd., who served in the I.M.S. Suffers from acute rheumatism. Only income about £28 per annum. Relieved once, £12. Granted £12 in 12 instalments.—Daughters, aged 64 and 67, of F.R.C.S. Eng. who practised at Stokenchurch; both have very indifferent health and quite unable to work. Only joint income about £56 per annum. Relieved twice, £20. Granted £18 in 12 instalments.—Daughter, aged 61, of M.D. Lond. who practised at Goxhill. Suffering from locomotor ataxy. Only income £7 per annum. Relieved five times, £62. Granted £18 in 12 instalments.—Widow, aged 80, of L.R.C.P. & S. Edin. who practised at Skirlaugh. Only income the old age pension. Only son unable to help. Relieved twice, £24. Granted £18 in 12 instalments.—Daughter, aged 86, of M.D. who practised at Manningtree. Receives £13 per annum from another charity. Cause of distress the failure of an annuity of £100. Relieved once, £12. Granted £12 in 12 instalments.—Daughter, aged 59, of L.F.P.S. Glasg. who practised at Mauchline. Health very indifferent. Only income £12 per annum from another charity. Relieved seven times, £80. Granted £10 in two instalments.—Widow, aged 67, of M.R.C.S. Eng. who practised at Pedrham and Jamaica. Three children, none able to help. Health very bad. Only income £26 per annum from friends in Jamaica. Relieved ten times, £85. Granted £10 in two instalments.—Daughter, aged 66, of M.R.C.S. Eng. who practised in India and Bishops Teignton. Earned her own living until six years ago, when she was obliged to give up in consequence of ill-health. Relieved once, £12. Granted £12 in 12 instalments.—Daughter, aged 65, of M.D. Aberd. who practised at London, Ramsgate, and Worthing. Earned her living for 40 years as a teacher of music, but in consequence of ill-health and age unable to continue. Receives an annuity of £21 from another charity. Relieved seven times, £70. Granted £12 in 12 instalments.—Daughters, aged 42 and 50, of L.R.C.S. and L.M. Dub. who practised at Sydenham and Plumstead. Elder sister suffering from migraine, the younger one an epileptic. Joint income only £45. The recent death of the mother, who had an annuity of £50, the immediate cause of distress. The cases referred to the Guild for report. Relieved seven times, £75. Granted £5.—Wife, aged 46, of M.R.C.S. Eng. who practised in Westminster and other places. Deserted by husband. One daughter who earns a little. Applicant, who is lame, has earned a little by teaching English and needlework, but insufficient to support herself. Has an opportunity of purchasing a small teaching connexion. Relieved four times, £48. Granted £10 in two instalments, the first amount to be utilised in purchasing the teaching connexion.—Widow, aged 53, of M.R.C.S. Eng. who practised at Stockton-on-Tees. Has two children; only help slightly. Earns a little by needlework, but eyesight very bad and getting worse. Relieved ten times, £88. Granted £9 in 12 instalments.—Two other cases were considered and emergency grants of £2 to each were made and the cases referred to the Guild for report.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—Professor C. S. Sherrington, F.R.S., will deliver the Morison Lectures in the hall of the College, 9, Queen-street, Edinburgh, on Monday and Wednesday, June 22nd and 24th, at 5 o'clock. The subject of the lectures will be the Limb as an Organ of Sense and of Reflex Action Compared.

COLONIAL NURSING ASSOCIATION.—The annual meeting of this association will be held on Tuesday next, June 9th, at 3.30 P.M., at 4, Whitehall-gardens, S.W., by invitation of the Crown Agents for the Colonies. H.R.H. Princess Henry of Battenberg, patroness of the association, will be present. Sir Claude MacDonald will preside.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO., London.

Autolycus in Arcady. By H. W. Tompkins, F.R. Hist. S. Price 3s. 6d. net.
Old French Romances. By W. Morris. Price 2s. 6d. net.

CHURCHILL, J. AND A., London.

Molecular Physics. By James Arnold Crowther. Price 3s. 6d. net.
A Manual of Bacteriology, Clinical and Applied. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. Lond., Professor of Bacteriology in the University of London. Fifth edition. Price 10s. 6d. net.
Immunity, Methods of Diagnosis and Therapy, and their Practical Application. By Dr. Julius Citron (Berlin), translated from the German and edited by A. L. Garbat, M.D. (New York). Second edition. Price 14s. net.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

The Science and Practice of Dental Surgery. Edited by Norman G. Bennett, M.A., M.B., B.C. Cantab., L.D.S., with an Appendix on Dental Jurisprudence by P. B. Henderson, B.A. Oxon. 993 illustrations. Price £2 2s.

GREEN, W., AND SON, Edinburgh and London.

Auricular Flutter. By W. T. Ritchie, M.D., F.R.C.P.E., F.R.S.E. Price 10s. 6d. net.

KING, P. S., London.

The Case for Voluntary Service: a Handbook of the Voluntary Service Committee. Price 1s.

LAURIE, T. WERNER, London.

Golf for Women. By George Duncan. Price 3s. 6d. net.
The Ways of Society (a social guide). By Mrs. Danvers Delano. Price 5s. net.

LEHMANN, J. F., München.

Atlas und Lehrbuch wichtiger tierischer Parasiten und ihrer Uebertrager, mit besonderer Berücksichtigung der Tropenpathologie. Von Dr. med. et phil. R. O. Neumann, o.ö. Professor der Hygiene und Direktor des Hygienischen Instituts der Universität Bonn; und Dr. med. Martin Mayer, Abteilungsvorsteher am Institut für Schiffs- und Tropenkrankheiten in Hamburg. Mit 1300 farbigen Abbildungen auf 45 lithographischen Tafeln und 237 schwarzen Textfiguren. Price M.40.

LEWIS, H. K., London.

I.K. Therapy. With Special Reference to Tuberculosis. By W. E. M. Armstrong, M.A., M.D. Price 5s. net.

PULMAN, GEORGE, AND SONS, Ophthalmoscope Press, London, W.

Sclero-Corneal Trephining in Operative Treatment of Glaucoma. By R. H. Elliot, M.D., B.S. Lond., Sc.D. Edin., F.R.C.S. Eng., Lieutenant-Colonel I.M.S. Second edition.

THE J. D. RIEDEL CO., Walbrook, London, and New York.

Riedel's Mentor, 1914 (Riedel's Berichte).

THE SCIENTIFIC PRESS, LIMITED, London.

Ionic Medication: Theory and Practice. By Lytton Maitland, M.D. Lond., formerly Assistant in Electrical Department, Charing Cross Hospital. Price 1s. net.

Case Book for Massage and Weir-Mitchell Treatment, specially ruled to meet the requirements of the I.S.T.M. Containing 56 pages, divided into sections for recording Massage and Weir-Mitchell Cases. Price 6d. net.

A Complete Handbook of Midwifery. By J. K. Watson, M.D. Edin. Third edition, completely revised, with several new illustrations added. Price 6s. net.

Midwives' Pocket Book. By Honnor Morten. Thoroughly revised and containing recent Examination Questions of the C.M.B. Price 1s. post free.

THE SOUTHWORTH COMPANY, Troy, New York.

Diagnostics of the Fundus Oculi. By Edward L. Oatman, M.D. One volume of text, with 234 illustrations and 4 coloured plates and two portfolios containing 79 stereograms and 8 diagnostic cards.

TIMES OF INDIA OFFICE, Bombay.

Sanitation in India. By J. A. Turner, M.D., D.P.H., Executive Health Officer, Bombay Municipality. With contributions by B. K. Goldsmith, M.B., S. C. Hormusji, M.D., K. B. Shroff, L.M. & S., and L. Godinho, M.D.

DR. WERNER KLINKHARDT VERLAGSBUCHANDLUNG, Leipzig.

Die menschliche Intelligenz durch Hygienische und Therapeutische Massnahmen. Eine Anleitung zum rationellen Denken. Von Dr. med. A. Lorand. Price M.4.

Leitfäden der Praktischen Medizin herausgegeben von Prof. Dr. Ph. Bockenheimer. Allgemeine Chirurgie. Band 9. I. Teil: Chirurgische Operationslehre. Band 10. II. Teil: Chirurgische Erkrankungen mit Ausnalme der Geschwülste und Zysten. Band 11. Teil III.: Geschwülste und Zysten. xvi. + 804 Seiten. Mit 1034 Abbildungen und 64 Tafeln. Price M.30.

YALE UNIVERSITY PRESS, HUMPHREY MILFORD, London, and OXFORD UNIVERSITY PRESS.

The Fundamental Basis of Nutrition. By Graham Lusk, Professor of Physiology, Cornell University Medical College. Price 2s. 6d. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BEARN, F. A., M.B., Ch.B. Vict., has been appointed Junior House Surgeon at the Manchester Royal Infirmary.

BENTZ, F. C., M.B., Ch.B. Vict., has been appointed House Surgeon at the Manchester Royal Infirmary.

BLACKMORE, F. J. C., M.R.C.S., L.R.C.P. Lond., has been appointed Chief Medical Officer to the Tuberculosis Dispensary, Woolwich.

BLORE, W. R., M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

CLARKE, J. F. HOWARD, L.D.S. R.C.S. Eng., has been appointed Consulting Dental Surgeon to the West Ham and Eastern General Hospital.

CRAWSHAW, C. H., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

DOUGAL, DANIEL, M.D. Vict., has been appointed Pathologist to the St. Mary's Hospitals, Manchester.

EVATT, J. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at University College Hospital.

GILHESPY, F. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at University College Hospital.

HENDRY, J., M.B., Ch.B. Aberd., has been appointed Medical Officer for the Hartington District of the Bakewell Board's area.

HERBERT, JOHN F., M.B., B.Ch. I., has been appointed Assistant House Surgeon at the North Ormesby Hospital, Middlesbrough.

HOGG, A. H., M.B., B.S. Durh., has been appointed Medical Officer for the Monk Bretton District of the Barnsley Union.

HUTCHINSON, H. F., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at the Manchester Royal Infirmary.

JAMESON, G. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician at the Manchester Royal Infirmary.

LEIGH, J. DICKINSON, M.D., F.R.C.S.E., D.P.H., has been appointed an Assistant Tuberculosis Officer for the County of Durham.

LEIPOLDT, C. LOUIS, F.R.C.S. Eng., has been appointed Medical Inspector under the Transvaal Education Department.

MACDONALD, J. F., M.D. Glasg., has been appointed Medical Officer to the Joint Rural Districts of Chelmsford, Maldon, and Rochford.

MCKEAGUE, JOHN, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant School Medical Officer for Bolton.

OLIVER, T. H., M.B., Ch.B. Vict., has been appointed Medical Registrar at the Manchester Royal Infirmary.

PEEK, J. H., M.B., Ch.B. Edin., has been appointed Assistant Medical Officer to the Flintshire Education Committee.

RICHMOND, ARTHUR, M.B., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been appointed Tuberculosis Officer for Berkshire.

SYRETT, E. F., M.D., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Harwich.

WOOD, G. W., M.B., Ch.B. Vict., has been appointed House Physician at the Manchester Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN UNIVERSITY.—Lectureship in Public Health. Salary £400 per annum.

ASHTON-UNDER-LYNE UNION WORKHOUSE.—Resident Medical Officer and Resident Assistant Medical Officer. Salaries £350 and £150 per annum respectively, with rations, laundry, and residence.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Locum Tenens Junior House Surgeon. Salary 5 guineas weekly, with board and lodging.

BIRMINGHAM, CENTRAL TUBERCULOSIS DISPENSARY.—Assistant Medical Officer. Salary £350 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £240 per annum, with apartments, fire, lights, and attendance.

BIRMINGHAM, SALTERLEY GRANGE SANATORIUM FOR CONSUMPTIVES, near Cheltenham.—Resident Medical Officer. Salary £300 per annum, with board, &c.

BIRMINGHAM UNION, DUDLEY-ROAD INFIRMARY.—Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, laundry, and attendance.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM.—Assistant Medical Officer. Salary £250 per annum, with board and residence.

BOOTLE BOROUGH HOSPITAL.—Senior and Junior House Surgeons. Salaries £100 and £80 respectively, with residence, board, and laundry.

BOURNEMOUTH COUNTY BOROUGH EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon, unmarried, for six months. Salary £100 per annum, with board, lodging, and washing.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried, for three months. Salary £80, with apartments, board, and laundry.

BRISTOL CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, board, washing, and attendance.

BRISTOL ROYAL INFIRMARY.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

BURLEY-IN-WHARFEDALE, WEST RIDING ASYLUM, Scalebor Park.—Assistant Medical Officer. Salary £250 per annum, with board, residence, and laundry. Or Locum Tenens to end of September. Salary £5 5s. per week.

BURNLEY, VICTORIA HOSPITAL.—Two House Surgeons. Salary £135 per annum, with residence, board, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £150 per annum, with board, residence, and washing.

CAIRO.—Resident Physician for Mena House Hotel, Pyramids, near Cairo.

CAMBERWELL, CONSTANCE-ROAD INSTITUTION, East Dulwich, S.E.—Locum Tenens for Medical Officer for four weeks. Salary at rate of 7 guineas per week, with board, lodging, and washing.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon and Junior House Surgeon, unmarried. Salaries £100 and £90 per annum respectively, with board, lodging, and washing.

CARDIFF, GLAN ELY TUBERCULOSIS HOSPITAL.—Resident Medical Officer. Salary £200 per annum, with quarters and maintenance.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry. Also Two House Surgeons for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C.—Assistant Surgeon.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Registrar.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician Salary £90 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

COUNTY OF LONDON.—Assistant Organisers of Children's Care Work under the London County Council. Salary £100 per annum.

CUMBERLAND COUNTY COUNCIL.—Three Assistant County Medical Officers. Salary £350.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Physician and Assistant House Surgeon. Salaries £120 and £80 per annum respectively, with residence, board, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

ESSEX EDUCATION COMMITTEE.—Medical Inspector. Salary £300 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon for five months. Salary at rate of £75 per annum, with board, residence, and washing. Also Surgeon to Out-patients.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

GLASGOW SCHOOL BOARD.—Female Assistant Medical Officer. Salary £250 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Anæsthetist. Salary 10 guineas per annum.

HACKNEY UNION INFIRMARY, High-street, Homerton, N.E.—Junior Assistant Medical Officer. Salary £140 per annum, with rations, apartments, and attendance.

HARROGATE INFIRMARY.—Resident House Surgeon. Salary £75 per annum.

HARTLEPOOL UNION INFIRMARY.—Assistant Medical Officer. Salary at rate of £250 per annum.

HERTFORDSHIRE COUNTY COUNCIL.—Tuberculosis Officer (Locum Tenens).

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £75 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board, residence &c.

HOSPITAL FOR WOMEN, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, rooms, and washing.

JURA PARISH COUNCIL.—Locum Tenens. Salary at rate of £5 per week.

KING'S LYNN, WEST NORFOLK AND KING'S LYNN HOSPITAL.—House Surgeon. Salary £150 per annum.

LAHORE MUNICIPAL COMMITTEE, Punjab, India.—Health Officer. Salary £800 per annum.

LIVERPOOL STANLEY HOSPITAL.—Two House Physicians and a House Surgeon. Salary £75 per annum each, with board, residence, and laundry.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

LONDON LOCK HOSPITAL.—House Surgeon to Female Hospital, Harrow-road, W. Salary £100 per annum, with board, residence, and washing.

MACCLESFIELD GENERAL INFIRMARY.—House Surgeon. Salary £125 per annum, with residence, board, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £250 per annum, with quarters, board, attendance, washing, &c.

MANCHESTER, ANCOATS HOSPITAL, Mill-street.—Assistant House Surgeon. Salary £70 per annum, with board and residence

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, &c.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £130 per annum, with board, lodging, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents for six months. Salary at rate of £100 per annum, with board and residence. Also Junior Administrator of Anæsthetics for six months. Salary at rate of £60 per annum. Also Surgical Registrar. Salary £75 per annum. Also Assistant Director in Clinical Laboratory. Salary £75 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy. Salary £200 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female Clinical Assistants in Out-patient Department. Also Anæsthetist.

NORWICH, JENNY LIND HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer for six months. Salary £50 per annum, with board, apartments, and laundry.

PEMBROKESHIRE EDUCATION AUTHORITY.—Assistant School Medical Officer. Salary £300 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £90 per annum, with board, residence, and washing.

PRESTON, COUNTY ASYLUM, Whittingham, Lancs.—Junior Assistant Medical Officer and Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, &c.

PRESTON, COUNTY BOROUGH OF.—School Medical Officer. Salary £300 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing. Also House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Senior and Junior House Surgeons. Salaries £200 and £100 respectively, with board, lodging, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Additional Medical Officer to X Ray Department. Salary 25 guineas per annum. Also Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

ST. ALBANS, HERTS COUNTY ASYLUM, Hill End.—Second Assistant Medical Officer, unmarried. Salary £225 per annum, with board, lodging, and washing.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL (OUT-PATIENT DEPARTMENT).—House Surgeon. Salary £100 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon and Ophthalmic House Surgeon for six months. Salary £100 per annum each, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, &c.

SHOREDITCH INFIRMARY, Hoxton-street, N.—Junior Assistant Medical Officer for six months. Salary £150 per annum, with board, apartments, and washing.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £90 per annum, with board and apartments.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary £170 and £160 per annum respectively, with board, lodging, and washing.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House Physician. Also Casualty and Out-patient Officer, both unmarried, for six months. Salary at rate of £120 per annum each, with board, residence, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Clinical Assistants.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Two Assistant Anæsthetists.

WESTERN OPHTHALMIC HOSPITAL, Marylebone-road, W.—House Surgeon. Salary £100 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing. Also Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

WOKINGHAM, PINEWOOD SANATORIUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and laundry.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £120 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £125 per annum, with board, rooms, and laundry.

WOOLWICH TUBERCULOSIS DISPENSARY.—Assistant Medical Officer. Salary £250 per annum.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Blackburn, in the county of Lancaster; at Pontymister, in the county of Monmouth; and at Westerham, in the county of Kent.

Births, Marriages, and Deaths.

BIRTHS.

GIBSON.—On May 24th, at the Manor House, Wareham, the wife of Charles W. Gibson, M.R.C.S., of a daughter.

METCALFE.—On May 26th, at Dean-terrace, Liskeard, Cornwall, the wife of B. Bentley Metcalfe, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

DE BURGH BIRCH—ALLAN.—On May 28th, at St. Mark's Church Woodcote, Purley, Professor De Burgh Birch, C.B., M.D., V.D., to Dora A. D. Allan (widow of the late Lieutenant-Colonel C. L. Allan, D.L.I.).

EGGAR—PARKINSON.—On May 23th, at the Church of St. Mary the Virgin, Primrose-hill, William Halley Eggar, M.B., B.S., to Ethel Phyllis, elder daughter of Mr. and Mrs. H. H. Parkinson, late of Charnwood, Epsom.

DEATHS.

DAVIES.—On May 20th, at Singapore, Frederick Henry Davies, M.B. Edin., C.M. Paris, second son of the late John Davies, M.D., J.P., of Ebbw Vale, Monmouthshire, in his 59th year.

HARVEY.—On May 29th, at The Oaks, Hollington, St. Leonards-on-Sea, Alfred Harvey, M.D., aged 87 years.

JESSOP.—On June 2nd, at Fitzjohn's-avenue, Hampstead, of phthisis, Edward Jessop, M.R.C.S., L.R.C.P.

LEWER.—On May 29th, at Queen's-place, Southsea (suddenly), Surgeon Major-General Robert Lewer, late A.M.S. and 9th Queen's Royal Lancers, in his 79th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"TORMENTORS" FOR FLEAS.

IN the late Andrew Tuer's "Old London Street Cries" (1885) there is some discussion as to what could have been the exact meaning of the ancient street-hawker's adjuration—"Buy a tormentor for your fleas," or again, "Buy a fine mousetrap, or a tormentor for your fleas." The latter cry is embalmed in literature in Taylor, the Water Poet's quaint couplet:—

> I could name more, if so my muse did please,
> Of Mouse Traps, and tormentors to kill Fleas.

The bodies of our Elizabethan ancestors, and indeed of Englishmen in general up to the time of the introduction of the morning bath, were more or less tortured by *pulices* and kindred insects. Ingoldsby sings of a big-wig at an early Victorian levee who is troubled by a ravenous flea in the small of his back; the idea was so little shocking to the past generation that the verse was often quoted by admirers of the "Legends."

Irritated thus, the fops of the eighteenth century made use of elegant "scratch-backs," slender rods of ebony or ivory, topped by miniature hands with sharpened fingers. These may have been the descendants of the "tormentors" or their sublimation, for the tormentor, hymned by Taylor, was probably a humble affair like a lath, made of some rough substance resembling pumice-stone. Such an instrument was lately preserved in the collection of an Isle of Wight virtuoso, and a specimen may perhaps exist in the London Museum. The scratch-backs with hands are often to be seen in curiosity shops to-day. They were used to get at almost inaccessible parts of the human economy, such as the region between the shoulder-blades. Their disappearance is eloquent of the advance of personal hygiene. There are undoubtedly less fleas about than when the Great Plague was supposed to have been spread by the escape of these creatures from sacks of rags in Long Acre.

On the other hand, it might plausibly be argued that our ancestors were conscious that disease is disseminated by fleas or flies, and that the "tormentor" was used in the crusade against them. Hence it may have been in the nature of fly-paper, or even of those little bamboo cages with greased perches which the Japanese are said to take to bed with them in order to catch fleas.

A CASE OF BEE-STING.

To the Editor of THE LANCET.

SIR,—I was attracted by Mr. Lawrence Pick's letter in THE LANCET of May 30th. It is now nearly 13 years ago since I published a similar case in your paper (THE LANCET, Oct. 26th, 1901). Mr. Pick's case and my own are almost identical. The points of interest in the two cases are: (1) The extreme rapidity of onset of symptoms after the individual had been stung; (2) the general skin eruption, with its intense irritability; (3) vomiting; and (4) the rapid disappearance of the rash. The points of difference in the two cases were: (*a*) Whereas in Mr. Pick's case it was a bee-sting, in mine it was the sting of a wasp; and (*b*) the rash is described in his case as being "scarlatiniform," while in mine it was urticarial. Mr. Pick asks for a cause. He may be interested to hear the suggestion I offered in THE LANCET at that time—"the suddenness of the onset of the rash after the sting seems to be indicative of a hypodermic injection of some toxic substance which might have been imparted with the sting." I am, Sir, yours faithfully,

T. WILSON PARRY.

Crouch End Hill, N., May 29th, 1914.

REINDEER MEAT.

A CORRESPONDENT writes: Dr. W. T. Grenfell, the well-known medical missionary and explorer of Labrador, is about to start reindeer farms in Labrador to meet the demand for reindeer meat in Canada, and it is also proposed to bring some of the frozen reindeer meat to England. The caribou, or renne du Canada, otherwise cariboo, is the name of the North American reindeer. It is the fleetest, wildest, and most shy of all the deer tribe. The woodland cariboo is abundant in Labrador, and may be found in considerable numbers in New Brunswick and in parts of Nova Scotia. The reindeer moss, otherwise called cariboo moss (Cladonia or Cenomyce rangiferina), is the principal food of the reindeer in the sterile regions, and covers the rocks. Professor Henry Youle Hind, who wrote "Explorations in the Interior of the Labrador Peninsula," published in London in 1863, said that "Once the country was rich in fur-bearing animals and cariboo or reindeer, but these are now greatly reduced in numbers." Nansen, speaking of the Eskimos, said: "One of their greatest delicacies is the contents of a reindeer's stomach. If a Greenlander kills a reindeer and is unable to convey much of it home, he will, I believe, secure the stomach first of all. It is, no doubt, because they stand in need of vegetable food that they prize this so highly, and also because it is in reality a very choice collection of the very finest moss and grasses which that 'gourmet,' the reindeer, picks out for himself. It has undergone a sort of stewing in the process of semi-digestion, while the gastric juice provides a somewhat sharp and aromatic sauce."

A NEW BINOCULAR MICROSCOPE.

IN reviewing the exhibits of medical interest at the Royal Society conversazione in an article in our issue of May 23rd we inadvertently omitted to mention that the new binocular microscope of Mr. E. Leitz (18, Bloomsbury-square, London, W.C.) was seen to great advantage in the demonstration of microscopic objects. This instrument is capable of being used for all purposes to which the monocular microscope is put, and without at all impairing the performance of any optical system. In a paper read before the Royal Microscopical Society this microscope is described as the first successful binocular instrument made for use with all ordinary objectives and eyepieces, including the highest powers. This, of course, is a most important achievement which adds considerably to the value of the microscope in the work of biological diagnosis. The body of the binocular microscope consists of a flat casing containing the system of prisms. At the upper end are situated two eyepieces whose distance apart can be regulated to suit the eyes of the observer by means of a milled head which actuates two levers inside the casing. The interpupillary distance can be varied between 54 and 70 mm. The eyepiece tubes slide in guides so that dust cannot enter the prism casing. The left eyepiece tube is provided with an independent adjustment to accommodate eyes of unequal vision. All kinds of eyepieces and objectives may be used, and the instrument can be employed for the same purposes as the ordinary monocular microscope. A most important feature in this microscope is the parallel eyepieces which obviate the actions of accommodation and adjustment for convergence as is necessary in binocular microscopes constructed hitherto. By the use of this instrument it is now possible for the research worker to employ both eyes in microscopical observations for a considerably longer period with much less fatigue than is commonly felt by using one eye in high magnifications. Greater facilities are thus offered in future researches and the prolonged routine of daily microscope work may be carried on with much less eye-strain.

THE STERILISATION OF MILK AND ALLIED QUESTIONS.

To the Editor of THE LANCET.

SIR,—IN THE LANCET of Feb. 14th last you published a letter from Mr. Richard W. Woosnam on the subject of condensed milk, in which he offered to arrange for an inspection of a condensed milk factory by any medical men interested in the matter. I wrote to Mr. Woosnam, and he very kindly arranged with the Anglo-Swiss Condensed Milk Co. for a small party of medical men to inspect their factory at Aylesbury. I went with them, and full opportunities were given us to inspect the factory and the whole of the process of condensation. The arrangements to ensure absolute cleanliness and the details of the process employed in condensing and sweetening the milk are most interesting. Mr. Simond, the manager, tells me that the company make arrangements for conducting parties of medical men over the works at frequent intervals, and that any doctor who applies to the company for permission to visit the works will receive an invitation to join the next party. The visit takes the greater part of the day, but the provision made by the company is such as to make it a very enjoyable as well as instructive outing.—I am, Sir, yours faithfully,

C. THACKRAY PARSONS, M.D. Lond.

Fulham Infirmary, Hammersmith, W., May 29th, 1914.

THE UROBILIN REACTION IN BLACKWATER FEVER.

Dr. Sörensen, of the Dutch Army in Flores, a small island in the most beautiful part of the Sunda Seas, reports in the *Archiv für Schiffs- und Tropen-Hygiene* for March an interesting observation on the urobilin reaction in malaria and blackwater fever. He made his tests either by Schlesinger's zinc acetate method or by the spectroscope, and even devised a quantitative method by dilution of the urine till the absorption bands were no longer visible. There is much malaria in Flores. In all cases of the three forms of malaria there was a reaction during pyrexia, and urobilin disappeared from the urine two to three days after defervescence. It reappeared again in some cases before relapses, and daily increased till the fever developed. Other relapses might show no warning urobilin. The more urobilin appeared, the worse the patient felt, the more

anæmic he became, and the longer his convalescence lasted. One day a patient gave a value of 125; this was astonishing, and only to be explained by great destruction of red blood corpuscles and the oncoming of hæmoglobinuria. He had had 15 gr. quinine on each of the preceding days, was very slightly jaundiced, but had albuminuria. His quinine was stopped and he was put in hospital; that night he had hæmoglobinuria which increased till next midday, and lasted in all 40 hours. Urobilin disappeared from the urine in about a week, and in 10 days the patient applied to leave the hospital to get married. Very similar experiences are related concerning 15 other cases of blackwater fever. They were all recognised 12 to 24 hours before hæmoglobinuria set in.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—4.30 P.M., Croonian Lecture:—Prof. E. B. Wilson (Columbia University): The Bearing of Cytological Research on Heredity.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF SURGERY (Hon. Secretaries—J. Murray, Raymond Johnson).

MEETING AT LIVERPOOL, the arrangements for which have already been announced. Members intending to attend the meeting are requested to send their names to one of the Hon. Secretaries without delay.

WEDNESDAY.

SECTION OF OPHTHALMOLOGY (Hon. Secretaries—J. Herbert Parsons, Leslie Paton).

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

Cases (at 8 P.M.):

Mr. Harold Whale (introduced by Mr. Brewerton): Case of West's Intranasal Operation for Dacryocystitis (photograph and instruments).

Mr. R. Affleck Greeves: Supernumerary Punctum Lacrimale and Canaliculus.

Mr. Rayner and Dr. Batten: Double Detachment of the Retina in a Boy with Functional Albuminuria.

Mr. E. Erskine Henderson: Hole in Optic Disc (drawing).

Mr. Charles Wray: (1) Multiple Ruptures of Choroid between Macula and Disc, with V. = ⅔ (drawing); (2) Keratoconus treated by Snell's Cautery.

Papers (at 8.30 P.M.):

Mr. Charles Wray: Operative Treatment of Keratoconus.

Mr. E. Erskine Henderson: Rupture of Optic Nerve at Lamina Cribrosa.

THURSDAY.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—T. Watts Eden, C. Hubert Roberts): at 8 P.M.

Specimens:

Dr. Macnaughton-Jones: Twin Female Monster.

Mr. Gordon Luker: A Lithopædion Removed from a Patient Six Months Pregnant.

Epidiascope Demonstration:

Professor David Waterston: A Decidual Cast containing a Very Young Embryo.

Papers:

Dr. Archibald Donald (Manchester): Case of So-called Chronic Metritis in a Nullipara.

Dr. W. Fletcher Shaw (Manchester): The Subdivisions of Chronic Metritis.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

TUESDAY AND THURSDAY.—9 P.M., Lettsomian Lectures:—Dr. F. M. Sandwith: Dysentery. (Lecture II. will be illustrated by pictures and pathological specimens.)

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.

WEDNESDAY—9 P.M, Bolingbroke Lecture:—Dr. W. Hale White.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. M. H. Gray: Clinique (Skin). 5.15 P.M Lecture:—Dr. F. L. Golla: Acute Anterior Poliomyelitis.

TUESDAY.—4 P.M., Dr. P. Parkinson: Clinique (Medical). 5.15 P.M., Lecture:—Mr. A. E. J. Barker: Leucoplakia on the Tongue and Other Parts.

WEDNESDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical) 5.15 P.M., Lecture:—Dr. J. C. McClure: Neurasthenia Gastrica.

THURSDAY.—4 P.M., Dr. F. G. Crookshank: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. P. H. Daly: Practical Electrocardiography.

FRIDAY.—4 P.M., Mr. W. Stuart-Low Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Diseases of the Liver.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Gibb: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carlill: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bigg: Throat, Nose, and Ear.—2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Throat, Nose, and Ear. 3.15 P.M., Special Lecture:—Sir Dyce Duckworth: Prognosis in Cases of Albuminuria.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin. 3.15 P.M., Special Lecture:—Dr. G. Rankin: Lymphadenoma.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carlill: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.—2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 3.15 P.M., Special Lecture:—Mr. L. V. Cargill: Syphilitic Affections of the Eye and its Adnexa.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bigg: Throat, Nose, and Ear.—2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Mr. C. Rowntree: Cancer of the Tongue.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.—2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.—10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. H. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.
THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.
FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Dr. B. King: Bronchitis, Emphysema, Pneumonia and Pleurisy in Relation to Pulmonary Tuberculosis.
SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Tuberculosis for Post-Graduates and Senior Students:—
MONDAY.—4 P.M., Dr. W. J. Hadley: General Treatment (I.).
TUESDAY.—4 P.M., Dr. H. R. Andrews: Tuberculosis of Genital Organs in the Female.
WEDNESDAY.—4 P.M., Dr. W. J. Hadley: General Treatment (II.).
THURSDAY.—4 P.M., Dr. C. Wall: Specific Treatment.

GUY'S HOSPITAL MEDICAL SCHOOL, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—
FRIDAY.—4 P.M., Lecture VI.:—Dr. F. Shufflebotham: The Medical Aspect of the Workmen's Compensation Act.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. Meek: Some Aspects of Sanatorium Treatment.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.

Course of Demonstrations for Post-Graduates:—
FRIDAY.—4 P.M., Dr. C. Riviere: Collapse Therapy (Artificial Pneumothorax).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Craft Palsy.
FRIDAY.—3.30 P.M., Lecture:—Dr. H. Tooth: Clinical Cases.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—
MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs.
TUESDAY.—Clinics:—2 P.M., Mr. Lane; 6 P.M., Mr. Paterson.
WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe.
THURSDAY.—2 P.M., Lecture:—Mr. Lane: Gonorrhœal Arthritis and its Treatment.
SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Mr. H. Platt: The Surgical Treatment of Infantile Paralysis.

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

We shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.
May–October (London, Shepherd's Bush).—**Anglo-American Exposition.**
June 8th–10th (Berne).—Seventh International Dairy Congress.
,, 9th–12th (Birmingham).—National Council of Nurses' Annual Conference and Nursing Exhibition.
,, 15th–18th (Portsmouth).—International Abolitionist Conference (Prostitution).
,, 18th–20th (Newcastle-upon-Tyne).—Fifth Annual Conference of the British Hospitals Association.
,, 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 3rd, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 28	30·18	N.	...	106	63	47	46	49	Cloudy
,, 29	30·10	S.	...	93	64	49	51	54	Hazy
,, 30	30·04	S.	...	99	66	54	55	59	Hazy
,, 31	30·07	N.	0·10	120	70	53	56	60	Fine
June 1	30·15	N.E.	...	110	60	53	54	56	Cloudy
,, 2	30·04	W.	...	119	67	47	53	58	Fine
,, 3	30·24	N.E.	...	111	67	49	49	56	Fine

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